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ABSTRACT

Compiled are abstracts of recent master's and doctoral level work in environmental education and environmental communications. The document's objectives are: (1) to make recent research known to professionals and students; and (2) to indicate the current nature of graduate education in these fields. Included in the compilation are sections covering site analysis, park and camp users and interpreters, media communications, pupil-centered studies, teacher-centered studies, citizen-centered studies, and resources and administration. Each description includes the author, date of completion, institution, department or program, advisor, availability of the complete document, and an abstract. Also presented are descriptions of 55 graduate programs in environmental education and environmental communications. (WB)

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Recent Master's Thesis Work in Environmental Education and Communications

Prepared for the National Association for Environmental Education April 1981

SE 034 848

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Copies of this volume, the 1978, 1979, and 1980 volumes are available through: NAEE, P.O. Box 400, Troy, Ohio 45373 for $5.00; or ERIC/SMEAC, Ohio State University, 120 Chambers Road, 3rd Floor, Columbus, Ohio 43212. The 1978 volume is no longer available through ERIC; the 1979 volume is catalogued as SE 029 408; and this volume will be listed in ERIC by May, 1981.

If you wish to contribute to future publications, please contact Dr. David L. Hanselman, NAEE Thesis Project Director, 311 Marshall Hall, SUNY-CESF, Syracuse, New York 13210.

INTRODUCTION

For the fourth year, the National Association for Environmental Education, the State University of New York College of Environmental Science and Forestry, and Educational Resource Information Clearinghouse have cooperated to produce this compilation of master's degree work in environmental education and communications. Since 1978, the objective of this annual publication has been to make recent master's theses known to professionals and students who may benefit from the work of their colleagues. We believe that this objective has been met and that the environmental education/communications community considers Recent Master's Thesis Work to be a useful indication of the nature of graduate education in the field.

With this issue, a total of 278 abstracts of thesis work have been published; this volume contains 55 of those. Most of them describe work which was completed in 1980, although some earlier work which was not reported in volumes I to III has been included. For the first time, brief abstracts of doctoral work in the field have been accepted. In addition, descriptions of major projects which were not done as thesis work but which may be of value to others in the field are included. These abstracts are not separated from those describing master's work, but are instead classified by topic.

All of the abstracts have been organized into the following seven categories: (1) Site Analysis--descriptions and development plans for areas to be used for environmental education; (2) Parks and Camps: Users and Interpreters--studies dealing with park and camp programs, especially user characteristics and interpretive techniques; (3) Media Communications--examinations of the effectiveness of various forms of media; (4) Pupil-Centered Studies--research dealing with attitude changes, effectiveness of pedagogical techniques, and learning characteristics of pupils; (5) Teacher-Centered Studies--research focusing on training, attitudes, and behavior of teachers and interpreters; (6) Citizen-Centered Studies--research dealing with the attitudes, values, and involvement of citizens in environmental problems; (7) Resources, Administration, and Others--studies dealing with environmental education policy, administration, and philosophy, as well as some experimental studies which cannot be included in the other categories. We regret that not all abstracts received were appropriate for our publication and therefore not included.

Abstracts are reported on forms which are dsitributed during the fall of the year preceding publication. In November of 1980, explanatory letters and abstract reporting forms were mailed to 166 graduate departments of environmental education, park administration, natural history interpretation, environmental studies, communications, journalism, and other potentially related fields. The letters were deliberately written to encourage responses from a broad range of fields in which work related to environmental education might be done. The problem of identifying all of the colleges and universities offering graduate programs in environmental education and communications has not been fully resolved. We continue to revise our mailing list and solicit information from institutions we may have inadvertently passed over.

At the suggestion of several NAEE members, we added, in 1979, a service that we have continued in this volume: all institutions contacted were asked to submit a brief statement describing their graduate program in environmental

education and communications. Again, while some institutions may have been missed, and several known program leaders did not respond, we believe that this listing and the descriptions are of value to both faculty and students.

Continued growth of this project in the years ahead depends on the cooperation of those people who supervise graduate work in environmental education and communications. Many institutions which have graduate programs in related fields returned no abstracts to us; we hope that they will contribute next year. To those who have contributed--both this year and in the past--we wish to express our sincere appreciation.

Dr. David L. Hanselman
Project Director

Kathryn S. Field
Editor

1. Site Analysis

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: The Design of a Self-guiding Interpretive Trail at Camp New Hope, North Carolina

AUTHOR: JoAnn Marie Roesler **DATE OF COMPLETION:** May 1980

INSTITUTION: Duke University

DEPARTMENT / PROGRAM: School of Forestry and Environmental Studies

THESIS ADVISOR: Dr. J. M. Vasievich

WHERE FULL THESIS IS AVAILABLE: Office of the Dean, School of Forestry & Env. Studies

A self-guiding interpretive trail was designed for Camp New Hope, a 165-acre camp owned by the Orange Presbytery in North Carolina. On-the-ground work included scouting the land and routing, marking and clearing the trail system. Twenty-two interpretive stations were designated along the trail route. An interpretive guide was written, with suggested layout and illustrations for printing. A laminated aerial photo map of the area and trail system was designed for display at the entrance.

In conjunction with the project, a management manual on the design, maintenance or construction of self-guiding trails was written to provide guidelines for professionals and lay persons alike.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Developing School Sites Into Outdoor Classrooms

AUTHOR: Carol DeGroot **DATE OF COMPLETION:** April 1979

INSTITUTION: University of Wiscosnsin Green Bay

DEPARTMENT / PROGRAM: Graduate Studies in Environmantal Arts and Sciences

THESIS ADVISOR: Richard W. Presnell, Ph.D.

WHERE FULL THESIS IS AVAILABLE: University of Wiscosnin Green Bay, Green Bay, WI 54302

(Citation # if applicable)

Outdoor classrooms have a definite contribution to make to education. There is a need to develop them on school sites. Ecological concepts described and pictured in textbooks become living realities in these outdoor classrooms where students can work, observe, appreciate the beauty of nature, and become involved as stewards of nature as opposed to exploiters of nature. This thesis, based on the development of an outdoor classroom is intended to help others who wish to construct such a facility on their school grounds. The planning stages are enumerated. Ideas such as funding, obtaining landscape architectural plans, bringing the proposal to the attention of the principal school board and superintendent, the role of a key teacher in coordinating the project, the need to actively involve other teachers and students are explained briefly and samples and statistics are provided. The true test of an environmental project such as this is the lasting values that are instilled in all participants and that carry over into adulthood.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Biophysical Inventory, Management Guidelines, and Environmental Education Program Development for Rose Creek Nature Preserve

AUTHOR: Edward C. Olson II **DATE OF COMPLETION:** Spr. 1980

INSTITUTION: Washington State University

DEPARTMENT / PROGRAM: Environmental Science

THESIS ADVISOR: Professor Richard Shew

WHERE FULL THESIS IS AVAILABLE: Environmental Science Department, Troy Hall 305

This project was undertaken to complete the management plan and develop an environmental education program for Rose Creek Nature Preserve, a land conservation project of The Nature Conservancy.

A chapter was devoted to each of three major areas of study: biophysical inventory, management guidelines, and environmental education program development. The biophysical inventory examined various parameters of the preserve's natural environment. These data were then analyzed to determine if Rose Creek met the criteria for a Nature Conservancy preserve. The chapter on preserve management established the preserve's objectives, developed the administrative structure, and examined present and future preserve management decisions. The final chapter was devoted to the development of an environmental education program specifically tailored for Rose Creek Preserve. A nationwide survey of environmental education programs was conducted and the results were applied as recommendations for the Rose Creek Environmental Education Program.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Management Issues Pertaining To The Use of Northern National Parks: A Case Study of the Northern Yukon

AUTHOR : Louis Zivot **DATE OF COMPLETION** 1979

INSTITUTION : University of Alberta

DEPARTMENT / PROGRAM : Forest Science

THESIS ADVISOR : James W. Thorsell

ADDRESS OF AUTHOR : 14312 - 90A Avenue
Edmonton, Alberta

WHERE FULL THESIS IS AVAILABLE : Department of Forest Science

The study examined the management issues that might arise through the use of a proposed national park in the Northern Yukon by three user groups: native people, researchers, and wilderness recreationists. The thesis considers the potential effects of the various uses on the environment and on each other to reveal possible conflicts. Secondary considerations include: (1) the proposed park's ability to support the native people's continued use of the renewable resources, to protect their cultures, and to provide them with planning and management opportunities; (2) the expectations of wilderness recreationists and their reactions to different management proposals; (3) research needs, and constraints that might be required to protect research resources and prevent conflicts with other user groups.
Study results indicate that the arctic recreationist appears to regard the arctic as the last frontier. He expects to be among the first persons to explore the area; finding any evidence of man disrupts the experience. Most wilderness users perceive the area as crowded if they see even one other party, whereas in southern areas meeting 4 to 5 parties a day is often acceptable. Access to northern parks is principally by aircraft which can be very disruptive of the wilderness experience. People do not want to see aircraft frequently in the wilderness; once a week may be permissible.
Freedom is an important element of the wilderness experience and most users surveyed were highly opposed to restrictions on the timing and location of their trip.
The major conclusion from the survey is that the area has a very low social carrying capacity, one that is in all likelihood lower than the ecological carrying capacity. Therefore if the area is managed to protect the experience it will also serve to protect the evironment.
Lastly the thesis discusses a number of ways, using both direct and indirect management methods, in which this can be achieved.

Environmental Education / Communication
Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Interpretive Prospectus/Park Plan for Redcliffe Plantation

AUTHOR: Jeffrey P. McNeill DATE OF COMPLETION: 1977

INSTITUTION: Clemson University

DEPARTMENT / PROGRAM: Department of Recreation & Park Admin./M.RPA

THESIS ADVISOR: H. Jesse Grove

WHERE FULL THESIS IS AVAILABLE: Dept. of Recreation & Park Admin., Clemson Univ., Clemson, SC 29631

The late John Shaw Billings of Aiken has been praised by the South Carolina Department of Parks, Recreation and Tourism Commission for his donation of historic Redcliffe Plantation. The 250-acre Redcliffe estate was deeded to PRT in 1973, two years prior to Mr. Billings' death. The site, which contains a large plantation home, offers a rich history to be utilized as a park and recreation resource. It will be administered as an historical park within the State Park System. Redcliffe is listed on the prestigious National Register of Historic Places. The two-story white frame structure is representative of the architectual styles in the South during the 19th century. One slave quarter and several other buildings remain, illustrating the pattern of plantation life prior to the War Between the States. The uniqueness of Redcliffe remains in the people who lived there. Their contributions to South Carolina were of great importance and are worthy of consideration as interpretive themes. The prospectus presents the historical significance of Redcliffe to be implemented into the park's interpretive program. It establishes goals and objectives for the park to furnish guidance in its planning and development and presents interpretive themes and methods for providing visitors with a unique and rewarding experience (55 pages).

Environmental Education / Communication
Project or Thesis Report Form

National Association for Environmental Education

TITLE: Hobcaw Barony Interpretive Conceptual Master Plan

AUTHOR: John D. McEachern DATE OF COMPLETION: 1978

INSTITUTION: Clemson University

DEPARTMENT / PROGRAM: Dept. of Recreation & Park Admin./M.RPA

THESIS ADVISOR: Herbert Brantley

WHERE FULL THESIS IS AVAILABLE: Dept. of Recreation & Park Admin., Clemson University, Clemson, SC 29631

The purpose of this interpretive conceptual master plan was to provide the Belle W. Baruch Foundation with directives in the development of interpretive programs and facilities. Along with the desire for a careful plan came another consideration. Why was this needed at Hobcaw Barony? There were many answers to the question. Some were evident while others were somewhat obscure, but all lie somewhere in the environmental concern by the public to know and to understand the environment in both a micro and macro sense. The offsprings of the conservation ethic and social movement were the support given to private organizations, governments and private individuals, such as Belle W. Baruch to bring about the development of Hobcaw for research and educational purposes. This objective coincides closely with the objective of an Experimental Ecological Reserve. Interpretation of Hobcaw needs to be developed to bring awareness to the visitor of the value of the research and education programs, and the need for ecological research, as well as provide the visitor with a feeling of how to consider the environmental consequency of his or her actions. Furthermore, the support for the need of interpretation becomes evident when a scientist must stop research projects to take guests on generalist tours of the Barony. The time the researcher takes to lead tours delays research projects and could possibly affect research funding in the future. Interpretation of Hobcaw Barony is desirable as well as needed. Through the methods and concepts presented in this paper, an approach to implementing interpretive programs and facilities will become visible (87 pages).

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Interpretive Master Plan for the Grassland Nature Center: Grover, Colorado

AUTHOR: Wendy Ann Walker **DATE OF COMPLETION:** Feb. 1981

INSTITUTION: Colorado State University

DEPARTMENT / PROGRAM: Recreation Resources / Environmental Interpretation

THESIS ADVISOR: Dr. Charles L. Mahoney

WHERE FULL THESIS IS AVAILABLE: Colorado State University

This plan, written for the Denver Audubon Society, gives recommendations for developing a renovated railway depot as the Grassland Nature Center. The site is located centrally on Pawnee National Grassland, an area of short and mixed grass prairie in northeastern Colorado. Based on a resource inventory and visitor analysis, the recommendations include off-site interpretation and development of exhibits, facilities and programs for schools, youth and adult groups, and visitors to the area. Historical aspects of the plains are combined with natural history to give a holistic approach to grassland interpretation.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: A PLAN TO INCREASE TOTAL USAGE OF A DEVELOPING ENVIRONMENTAL FACILITY BASED ON NORRIE ENV'L MUSEUM

AUTHOR: Carolyn Rutgers **DATE OF COMPLETION:** March '81

INSTITUTION: Slippery Rock State College

DEPARTMENT / PROGRAM: Environmental Education

THESIS ADVISOR: Craig C. Chase

WHERE FULL THESIS IS AVAILABLE: Slippery Rock State College

The outlined plan, developed and implemented, has been designed to increase the total usage of a newly developing environmental facility. The base for this study is Norrie Environmental Museum, which is located in Staatsburg, New York, and the community surrounding it. The plan is adaptable to environmental facilities in situations similar to Norrie Environmental Museum.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: A Conceptual Development Plan for a Commercial Outdoor Education/Recreation Enterprise in the Adirondack Mountains of New York

AUTHOR: James W. Culp **DATE OF COMPLETION:** 1977

INSTITUTION: Clemson University

DEPARTMENT / PROGRAM: Dept. of Recreation & Park Admin./M.RPA

THESIS ADVISOR: Gordon E. Howard

WHERE FULL THESIS IS AVAILABLE: Dept. of Recreation & Park Admin., Clemson Univ., Clemson, SC 29631

The purpose of this paper was to lay the conceptual ground work for a commercial outdoor education/recreation enterprise which would be situated in the Adirondack of New York. The function of this enterprise would be two-fold. First, the enterprise would provide guided trips into the back country of the area. Secondly, the enterprise would stress the ideal of the "new ethic" of camping in which man is considered a visitor who makes every attempt to minimize his impact on the area. The conceptual development of the enterprise includes the philosophic ideals and purposes as well as concrete objectives; the programs are delineated and the required equipment and physical plant facilities are described. The applicable legal requirements and estimated financial liabilities are discussed along with the potential sources of capital. The conclusion was drawn that the concept is feasible if funding can be acquired (35 pages).

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Interpretive Prospectus for the Clemson University Experimental Forest, Clemson University, South Carolina

AUTHOR: Lynne R. Beeson

DATE OF COMPLETION: 1977

INSTITUTION: Clemson University

DEPARTMENT / PROGRAM: Dept. of Recreation & Park Administration/M.RPA

THESIS ADVISOR: Herbert Brantley

WHERE FULL THESIS IS AVAILABLE: Dept. of Recreation & Park Admin., Clemson Univ.,Clemson, SC 29631

The Clemson Experimental Forest, 17,356 acres of land once the hunting ground of the Cherokee and the farmland of early settlers, surround the campus of Clemson University in the upper South Carolina piedmont. Deeded to the University in the mid-Fifties, the Forest is an outdoor laboratory for many disciplines of the University community. The interpretive prospectus explores and documents the historical significance of the Forest. It establishes an interpretive goal and objectives for the Clemson Experimental Forest, as well as providing insight into major themes of the Forest which can serve to provide visitors with a more rewarding experience. Interpretive methods and tools presented lend themselves to the resource base. The end result of this study is an interpretive prospectus and plan which can be utilized in the future development of the Clemson Experimental Forest, and establish one basis for understanding the valuable potential that is contained within its land base (90 pages oversize, not reproducible).

2. Parks and Camps: Users and Interpreters

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Participation and Nonparticipation in Interpretation: A Study of People, Places and Activities

AUTHOR: Gary Wayne Mullins **DATE OF COMPLETION:** May 1979

INSTITUTION: Texas A&M University

DEPARTMENT / PROGRAM: Recreation and Parks/Doctoral

THESIS ADVISOR: Dr. John W. Hanna

WHERE FULL THESIS IS AVAILABLE:

Interpretive activities, a group of recreational events, are programmed and provided by a number of public, private and nonprofit organizations in the United States, Canada and England. The topic of interpretation has been researched to an extent and a variety of definitions have been developed. Most research has attempted to evaluate the effectiveness of interpretive programs or predict participation. Few studies have sought to identify certain empirical regularities regarding people, their use of recreation places and the interpretive activities they do or do not participate in at those places.

The current research project adapted certain conceptual frameworks that have shown promise in other recreation behavior studies. These were social group measures, the concept of recreation place, multiple measures of participation and structural properties of recreational activities.

Three groups of variables--social aggregate variables, social group variables and recreation place variables--were examined for their utility in describing and explaining participation in interpretive activities or subgroups of interpretive activities. Each group of variables was adapted from studies which emphasized certain aspects of how people organize themselves for recreational pursuits.

Three data sets gathered in different geographical regions in the United States were used. Certain variables were repeated in two or more data sets. Randomly selected telephone numbers were generated to produce region-wide samples of 1,500 each in two data sets. A systematic selection procedure employed on-site in National Park Service areas in another geographic region resulted in a third sample of 1,500.

Analysis of the data was conducted to test a series of hypotheses. The results were that:

1. Social aggregate variables do differentiate between park visitors and non-park visitors.
2. Social aggregate variables do not differentiate between participants and nonparticipants in interpretive activities.
3. Certain social group variables differentiate between participants and nonparticipants in interpretive activities.
4. Certain recreation place variables do differentiate between participants and nonparticipants in interpretive activities.
5. Two empirically derived subgroups of interpretive activities--personal and nonpersonal--were identified. Participants and patterns of participation in these activity subgroups were different.
6. The extensity and intensity (measures of participation) were found to be related differently to certain characteristics of people, recreation places and interpretive activities.
7. Two somewhat different groups of variables were identified that explained participation in subgroups of interpretive activities.

These findings identified a set of empirical regularities concerning participation and nonparticipation in interpretive activities which can be useful in formulating future research and in programming and providing interpretive activities sponsored by recreation related organizations.

Environmental Education / Communication Project or Thesis Report Form

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National Association for Environmental Education

TITLE: A Study of User Patterns and Maintenance Guidelines for the Alum Cave Bluffs and Chimney Tops Trails, Great Smoky Mountains National Park

AUTHOR: Thomas Hallman Fearrington, Jr. **DATE OF COMPLETION:** 1977

INSTITUTION: Clemson University

DEPARTMENT / PROGRAM: Dept. of Recreation & Park Admin./M.RPA

THESIS ADVISOR: H. Jesse Grove

WHERE FULL THESIS IS AVAILABLE: Dept. of Recreation & Park Admin., Clemson University, Clemson, SC 29631

On June 15, 1934, Congress authorized the establishment of Great Smoky Mountains National Park. The concept behind this enabling legislation was to save the remaining virgin forests and the rugged mountains for the enjoyment and inspiration of future generations. In 1976, a record 8,991,500 individuals visited the park. These figures indicate the intense use of the park. The Alum Cave Bluffs Trail and the Chimney Tops Trail are examples of intensively used trails. Heavy use on the Alum Cave Bluffs Trail combined with natural erosion has resulted in the slow deterioration of the trail. In an effort to properly control this impact, maintenance guidelines, as currently applied on the Alum Cave Bluffs Trail, should be revised. The intensity of the trail's use should be an integral factor in the formulation of maintenance guidelines. Numerous natural and historical resources are encountered along the Alum Cave Bluffs and the Chimney Tops Trails. With the significant number of people daily using these thrails, there is a need for the National Park Service to develop a pamphlet interpreting these resources. The purpose of this study was to identify and propose needed maintenance improvements along the Alum Cave Bluffs and Chimney Tops Trails in an effort to upgrade the existing condition of the trails; as well as to suggest maintenance procedures to retard future erosion caused by human and natural forces. Strategic sites along the Alum Cave Bluffs Trail, important from a natural and/or historic standpoint, were identified for possible inclusion by the National Park Service in the event that they design and implement an interpretive pamphlet for the area (185 pages).

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Injuries and Illnesses in Outdoor Education: A Study of an Ohio Upper-Elementary Resident Outdoor Education Program

AUTHOR: Cheryl Ann Arnold **DATE OF COMPLETION:** March 11, 1981

INSTITUTION: The Ohio State University

DEPARTMENT / PROGRAM: Environmental Education

THESIS ADVISOR: Mary Lynne Bowman

WHERE FULL THESIS IS AVAILABLE: 246 Lord Hall, 124 W. 17 Ave., Cols. OH 43210

Resident outdoor education programs have established safety and health as one of their objectives. In order to achieve this objective many resident outdoor education programs follow, to varying degrees, safety and health standards which are both required by law and suggested by organizations such as the American Camping Association. Little research has been done which focused on the safety and health aspects of resident outdoor education programs.

This study assessed injuries and illnesses that occured during Camp Joy's resident outdoor education program which is located in Cincinnati, Ohio. The study conducted in 1981, involved the nurse's and supervisor's records of injuries and illnesses during the 1979-80 school year.

Description and explanation of the data set was conducted and the results were as follows:

1) Injuries that occured were more likely in male than female participants, and illnesses were more likely in females than in male participants.
2) More participants were injured during the fall than in the winter or spring, and more participants were ill in the spring than in the fall or winter.
3) More injuries occurred during unsupervised activities than during supervised activities.
4) Most injuries were of minor nature such as cuts or punctures, bruises, and other or unknown types.
5) Most illnesses which occurred were either allergic diseases, or illnesses of other conditions such an undiagnosed fever.

IO

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Assessment and Explanation of the Importance, Extent and Management of Vandalism in Urban Parks in Columbus, Ohio

AUTHOR: Sally M. Blower **DATE OF COMPLETION:** November, 1980

INSTITUTION: The Ohio State University

DEPARTMENT / PROGRAM: School of Natural Resources/Division of Environmental Education

THESIS ADVISOR: Gary W. Mullins

WHERE FULL THESIS IS AVAILABLE: The Ohio State University Library

This study was designed to measure three different views on the perception of the extent and importance of vandalism in urban parks. Four types of vandalism, (littering, damage to the natural environment, graffiti and damage to manmade facilities) were investigated at three different levels (low, moderate and high). Visitors' views, managers' views and managers' perception of visitors' views were compared and contrasted. Quasi-experimental and correlation methodologies, which included paired picture comparisons, were employed to explore relationships between the four independent variables (the four types of vandalism) and the two dependent variables (the perception of the extent and the perception of the importance of vandalism). The collected data were manipulated to provide an indication of the types and levels of vandalism which managers and visitors considered important, and the actual levels of vandalism which the two groups perceived. Further data analysis disclosed whether managers had adopted a user-oriented or a professional-oriented approach to vandalism management. A comparison of manager's perceptions of visitors' views with visitors' actual views suggested the degree to which managers accurately comprehended visitor needs. Analysis and evaluation of the results revealed which types and levels of vandalism required priority management. These results were then used as a basis for management recommendations.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Assessment of the Enjoyment and Interest Level for Senior Citizens in Sensory and Non-Sensory Interpretive Hikes

AUTHOR: Francis M. Brockmeyer **DATE OF COMPLETION:** March 1980

INSTITUTION: The Ohio State University

DEPARTMENT / PROGRAM: School of Natural Resources/Division of Environmental Education

THESIS ADVISOR: Mary Lynne Bowman

WHERE FULL THESIS IS AVAILABLE: The Ohio State University Library

This study described and explained differences in levels of senior citizen enjoyment and interest for sensory and non-sensory hikes. Participants in sensory hikes were compared with participants in non-sensory hikes. Data were collected by questionnaire and unobtrusive observational techniques. Results demonstrated sensory hikers: scored higher on a recall quiz; ranked their enjoyment higher; enjoyed recollecting memories, aesthetic experiences, and sensory experiences; smiled more; and offered more contributions of knowledge. They also verbally expressed their enjoyment significantly more times than those on non-sensory hikes. Non-sensory hikers rated significantly higher on number of questions asked, number of responses to questions from the interpreter, and number of social interactions between participants. Senior citizens wanting more interaction with each other also wanted more discussion time and longer hikes. Conclusions include: sensory hikes tend to be more environment-oriented, while non-sensory hikes tend to be more people-oriented; non-sensory hikes are characterized by greater levels of interaction; there is a relationship between what the senior citizens focus their attention on and what they find enjoyable and interesting; sensory exercises help clarify interpretive messages and encourage greater awareness of the environment; and senior citizens enjoy interpretive hikes ranging from thirty to fifty minutes if they are not strenuous.

Environmental Education / Communication Project or Thesis Report Form

II

National Association for Environmental Education

TITLE: Assessing Visitor Participation/Nonparticipation in Interpretive Activities Through Unobtrusive Measures

AUTHOR: Tamara Lynn Nelson **DATE OF COMPLETION:** June 1980

INSTITUTION: The Ohio State University

DEPARTMENT / PROGRAM: School of Natural Resources/Division of Environmental Education

THESIS ADVISOR: Mary Lynne Bowman

WHERE FULL THESIS IS AVAILABLE: The Ohio State University Library

Interpretive activities, provided in a variety of settings, have educational, informational and recreational aspects. Interpretation, a communication process, depends upon the existence and participation of an audience. While most research in the field of interpretation has focused on evaluating the effectiveness of interpretive programs, few studies have attempted to identify certain empirical regularities, regarding the visitor. Thus, a deficiency of information exists with respect to the visitor.

This study assessed visitor participation in six interpretive activities provided as a visitor service by the National Park Service on the Blue Ridge Parkway in North Carolina. Conducted in 1979, the study differentiated levels of participation in terms of five groups of variables--social aggregate, social group, time/environment, place and associated activity.

Description and analysis of the data set was conducted, and the results are as follows:

1. Certain social aggregate variables do discriminate between participants and nonparticipants in specific interpretive activities.

2. Social group variables do distinguish participants from nonparticipants in certain interpretive activities.

3. Weather conditions do differentiate between participants in personal interpretive activities.

4. Certain place variables do discriminate between participants and nonparticipants for particular interpretive activities.

5. Participants and nonparticipants in interpretive activities can be explained on the basis of 12 associated activity variables.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Planning for Winter Recreation: A Case Study of Elk Island National Park

AUTHOR : William Marshall **DATE OF COMPLETION** 1980

INSTITUTION : University of Alberta

DEPARTMENT / PROGRAM : Forest Science

THESIS ADVISOR : Jack D. Heidt

ADDRESS OF AUTHOR : 11430 - 74 Avenue
Edmonton, Alberta

WHERE FULL THESIS IS AVAILABLE : Department of Forest Science

The phenomenal growth in cross country skiing that has occurred and is continuing to occur across Canada has created problems in recreation management. Urban, Provincial and National Parks, some without proper trail facilities, are being overwhelmed by cross country skiers. In order to develop appropriate and viable management programs concerning cross country skiing an adequate data base including information on skier's profile, management concerns, use patterns, use estimates and social carrying capacity must be established. This information is needed to identify what cross country skiers are like, what they do and what they think.

This study involved the development of a data base concerning cross country skiers at Elk Island National Park. Results of the study also provide a number of recommendations for cross country ski trail management at Elk Island National Park.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Evaluation of the Use and Effectiveness of Two Types of Non-personal Interpretive Media in Yellowstone National Park

AUTHOR: Doris B. Tal **DATE OF COMPLETION:** 5/81

INSTITUTION: University of Idaho, College of Forestry

DEPARTMENT / PROGRAM: Wildland Recreation Management

THESIS ADVISOR: Dr. James R. Fazio

WHERE FULL THESIS IS AVAILABLE: Dept. of Wildland Recreation Management, University of Idaho, Moscow, Idaho

361 visitor groups were studied along the Mud Volcano Self-Guiding Nature Trail in Yellowstone National Park. Significant differences were found between the levels of use and effectiveness of two types of interpretive media: the trail sign and the trail booklet. The indicators of effectiveness used in the study were visitor enjoyment and preference for interpretive media, information recall and retention, time spent on the trail and time spent reading interpretive material. In addition, socio-demographic data was collected, including visitor age, sex, level of education, area of residence and length of stay in the Park. Data was collected through methods of observation, interview, and on-site and post-visit questionnaires. The study was conducted during the three month summer season at Yellowstone, 1980.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Evaluation of the Impact of Visitor Orientation Procedures at Old Sturbridge Village

AUTHOR: Mary Leanoir Brydon-Miller **DATE OF COMPLETION:** Sept. 1980

INSTITUTION: University of Massachusetts, Amherst, Massachusetts

DEPARTMENT / PROGRAM: Psychology

THESIS ADVISOR: D. Geoffrey Hayward

WHERE FULL THESIS IS AVAILABLE: Main Library, University of Massachusetts

Old Sturbridge Village offers an innovative and exciting experience in American history to visitors from all parts of the world. However, for many visitors unfamiliar with the interactive mode of interpretation and the emphasis on exploration within the living-history museum, some form of orientation can be extremely valuable. The present study examined the impact on the visitor's experience of the various orientation procedures available at Old Sturbridge Village. Of particular interest was the effect of the two orientation films presented in the Visitor Center theater, although other orientation procedures were considered as well. This research is based on a "pre-test/exposure/post-test" model in which visitors were interviewed both before and after their trip image and information about Old Sturbridge Village had taken place. Within this design, it was intended that the experiences of visitors who saw a film would be compared to those of visitors who did not. A control group of respondents who received only the exit interview was also included. Film-viewing visitors seemed to anticipate spending longer in the Village and did, in fact, spend more time although they do not see a greater number of exhibits. These same results were also found for respondents with a greater extent of orientation. However, neither film-viewing nor greater extent of orientation were associated with increased learning. The greatest impact seemed to come from the entrance interview procedure itself. These visitors saw a greater number of exhibits and exhibited higher levels of learning than those who did not receive an entrance interview. Overall, the orientation procedures are underutilized and evaluation data indicate that only the map and film were perceived as valuable in orienting visitors to the Village. Results provide new directions both in future orientation planning and for further research in the field.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: A Public Relations Study of Law Enforcement at Shenandoah National Park

AUTHOR: John F. Bradberry **DATE OF COMPLETION:** 1979

INSTITUTION: Clemson University

DEPARTMENT / PROGRAM: Dept. of Recreation and Park Admin./M.RPA

THESIS ADVISOR: H. Jesse Grove

WHERE FULL THESIS IS AVAILABLE: Dept. of Recreation & Park Admin., Clemson University, Clemson, SC 29631

Shenandoah National Park consists of approximately 300 square miles of mountainous terrain located in the northwestern section of Virginia. A prime responsibility of park staff members is to provide adequate and effective protection to both park visitors and resources. Law enforcement is therefore a necessary function of the Shenandoah National Park rangers. The purpose of this study was to identify and suggest ways to enhance cooperation between members of the Shenandoah National Park staff and personnel of neighboring state and local law enforcement agencies. Based on the results of a questionnaire sent to approximately 150 state and local law enforcement officials, recommendations were formulated and presented to members of the Shenandoah National Park staff. These recommendations outlined actions and communication methods to improve cooperation between park staff members and personnel of neighboring state and local enforcement agencies (58 pages).

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Communication Messages on a Natural Resource Management Controversy

AUTHOR : Gail Gawenda **DATE OF COMPLETION** 1979

INSTITUTION : University of Wisconsin-Madison

DEPARTMENT / PROGRAM : Agricultural Journalism

THESIS ADVISOR : Jerry Korbon

ADDRESS OF AUTHOR : 2613 Madrid Ln. #8
Madison, Wis.

WHERE FULL THESIS IS AVAILABLE : Agricultural Journalism Dept.
1040 Henry Mall, Univ. of Wisconsin, Madison, Wis. 53706

This study examines communication messages between resource managers at Grand Canyon National Park and three special interest groups during a controversy over the park's proposed plans to eradicate wild burros in the canyon.

Messages were analyzed to determine who was communicating with whom and what channels were used and how many messages were transmitted during important stages of the controversy.

It was found that out of 138 messages transmitted in a three-year period, only 22 passed between one of the special interest groups and Grand Canyon National Park. Most of these messages were letters and most came soon after the park first announced its plans. After this initial exchange of messages, both sides concentrated on public channels to gather support rather than trying to persuade the other directly.

No messages were transmitted from Grand Canyon National Park directly to the special interest groups regarding the burro issue before the plan's public announcement. No messages were transmitted from the special interest groups to the park before the plan announcement. None of the National Park Service's suggested techniques for public involvement--public workshops and meetings, informal workshops, or public review of the assessment of alternatives--was used before the plan announcement.

3. Media Communications

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Incorporation of Videotape in Pre Design Site Analysis for Urban Sites: A Case Study Prototype

AUTHOR: Felix H. Peronilla Jr. DATE OF COMPLETION: May 1980

INSTITUTION: State University of New York, Syracuse, N.Y.

DEPARTMENT / PROGRAM: School of Landscape Architecture , Graduate Program

THESIS ADVISOR: Dr. John Felleman

WHERE FULL THESIS IS AVAILABLE: Moon Library

This paper is based on the results of a terminal project conducted over a one and-a-half year period between November 1978, and mid-1980.

A methodology was developed for incorporating videotape recorder technology into pre-design site analysis of urban sites. The project was intended to illustrate and provide site designers and planners - an audio-visual alternative, to expand and supplement current urban site reconnaissance and analysis methods. The paper also provides an introduction to the fundamentals of the small-format videotape recorder hardware for field and office design research work.

A case study prototype was undertaken to apply and evaluate the developed methodology. The selected visual analysis and visual simulation studies produced from the videotaped product are evidence of the feasibility and potential of the VTR as a visual tool for qualitative site analysis.

The technique of using the VTR to determine aesthetic quality follows the principles and current methods used in still photography for visual analysis studies. Careful controls were followed in the selection of site stations, orientation, and analysis of the data. The videotape product was used to provide the base for presentation of visual analysis and visual simulation drawings based on the designer's respective viewpoint.

The results of the terminal project support the utility of the VTR approach for a wide range of potentially useful applications, in education as well as in private practice of landscape architecture.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Comparison of three mass media for communicating forestry information to young people

AUTHOR: Tomlin, Ronn L. **DATE OF COMPLETION:** 1980

INSTITUTION: Stephen F. Austin State University

DEPARTMENT / PROGRAM: Forestry

THESIS ADVISOR: Hershel C. Reeves

WHERE FULL THESIS IS AVAILABLE: Library - Stephen F. Austin State University

A comparison of three mass media (TV, radio and newspaper) was made to find which would be more effective at communicating forestry information to young people. The field study was conducted at Nacogdoches, Lufkin, and Kilgore High Schools in East Texas.

Questionnaires given to students before and after exposure to six media spots tested forestry knowledge and attitudes. One spot in each medium presented a hardsell-threat approach, the other a softshell-humorous approach. A final questionnaire measured student preferences of the media.

Analysis of data indicated newspaper and TV to be the most effective media, with radio less effective. Both approaches were effective in newspaper, with softsell-humorous better in TV and radio.

Recommendations include the use of newspaper and TV for primary public relations efforts and radio for a supplemental role. Both approaches should be used with newspapers, but softsell appears best for TV and radio.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : THE RESPONSE OF A RESOURCE PERIODICAL TO THE ENVIRONMENTAL MOVEMENT: A CONTENT ANALYSIS OF AMERICAN FORESTS, 1970-1978

AUTHOR : Carol A. DeWolf **DATE OF COMPLETION** May 14, 1980

INSTITUTION : University of Wisconsin-Madison

DEPARTMENT / PROGRAM : Agricultural Journalism/environmental communications

THESIS ADVISOR : Richard D. Powers

ADDRESS OF AUTHOR : 2101 Sommers Avenue
Madison, Wisconsin 53704

WHERE FULL THESIS IS AVAILABLE : Department of Agricultural Journalism
440 Henry Mall Madison, Wisconsin 53706

Two content analyses were done on American Forests magazine for the period 1970-1978 to determine the scope of its environmental coverage following the environmental information irruption of 1969-1970. Categories developed by Russell in her study of nature magazines (1970) were used to analyze subject matter trends. In coding each feature article (1,049) that appeared from January 1970 to December 1978, Management ranked first in percentage of total articles (18.02%) followed by Miscellaneous (12.49%) and Natural History (8.58%). Subject areas dealing with specific environmental problems ranked in the lower half of the scale. Coverage of resource appreciation and management subjects generally increased in the first half of the decade, then returned to 1970-1971 levels at the end of the decade. This contrasts with Russell's findings which showed a shift towards more problem-oriented, political environmental concerns during the period 1954-1969.

Category systems developed by Belak in his study of outdoor magazines (1972) were used to determine the physical and cultural orientation of 90 sample articles that appeared during the period 1970-1978. Forest and General topics received equal treatment as did Regional and Multi-regional topics. Interior articles dominated Universal articles and Rural articles dominated Urban articles. More attention was given the appreciative view than the consumptive view of nature. American Forests' content consistently supports the magazine's objective of promoting balanced use of the nation's forests.

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Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Survey of Wis. Natural Resource Magazine Subscribers

AUTHOR : Kathryn Gebhardt Blackfield DATE OF COMPLETION 1980

INSTITUTION : University of Wisconsin- Madison

DEPARTMENT / PROGRAM : Agricultural Journalism

THESIS ADVISOR : John Fett

ADDRESS OF AUTHOR : 9 Sparkhill St., Watertwon, Mass. 02172

WHERE FULL THESIS IS AVAILABLE : Dept. of Agricultural Journalism, 440 Henry Mall, Univ of Wis., Madison, Wis. 53706

Wisconsin Natural Resources is the bimonthly subscription-financed magazine published by the Wisconsin Dept. of Natural Resources (DNR) since Jan. 1977, circulation 70,000. To maintain these subscribers and attract new readers, the magazine needs to publish articles that have a wide general and meet readers' needs. But the staff knew very little about Resource's audience.

Two principal questions of the study were: 1) what are the characteristics of Resources subscribers, and 2) is the magazine providing the kinds of information subscribers desire? A mail questionnaire sent to a random sample of 500 subscribers elicited 383 usable responses.

The majority of the respondents were over 45 years old, had at least some college education, participated in hunting and fishing, and were interested in reading about wildlife and nature topics. The most common reasons given for liking Resources were the color photos, wildlife articles, and emphasis on state issued. Results suggested that there should be more articles appealing to younger readers. Several educators indicated they used material from the magazine in the classroom.

One criticism of the magazine was that it is not as informative as its predecessor, the Wisconsin Conservation Bulletin, a free black-and-white periodical previously published by the DNR. Only 51% indicated they would renew their subscription if the fee were increased. After the data were collected, rate was increased, so the magazine may now lose some subscribers.

4. Pupil-Centered Studies

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Development, Teaching, and Assessment of the Concept "Away" in Primary Grade Children

AUTHOR : Moira A. Gleason **DATE OF COMPLETION** August 1979

INSTITUTION : Cornell University, Ithaca, N.Y.

DEPARTMENT / PROGRAM : Education/ Science & Environmental Education

THESIS ADVISOR : Verne N. Rockcastle

ADDRESS OF AUTHOR : 1551 E. 15th St., Brooklyn, N.Y. 11230

WHERE FULL THESIS IS AVAILABLE : Libary, College of Agriculture, Ithaca, N.Y.
Also, 18 Stone Hall, Cornell University, Ithaca, N.Y. 14853

In our modern throw-away society, accumulation and disposal of waste has become a problem of serious proportions, and is measurably detrimental to our environment. Changes must be made in attitudes and behaviors of society. Children take many of their behavioral cues from adults, but the attitudes and behaviors of many adults are formed in childhood. So the nature and interpretation of "away" in a throw-away society must be considered with respect to children.

This study was designed to analyze the concept of "away," its elements, its precise qualities, and the teachability of this concept in primary grade children.

The concept of "away" was defined as it applies to the diminishing presence of materials in the environment. It was investigated in the social, spatial, particulate, physicochemical, temporal, and migrational-cyclic dimensions. The research was conducted in three phases: 1) the clinical interview, 2) the instruction, and 3) the evaluation.

Children were interviewed on a one-to-one basis with questions being explored for each of the dimensions identified. Instruction consisted of two lessons that focused on the particulate and social responsibility dimensions. The evaluation questionnaire consisted of six questions with a pictorial response sheet to correspond with the answers for each question.

The most important findings of this research were: 1) that children can be assisted in developing more sophisticated notions of social responsibility given experiences through interviewing and teaching, 2) that formal instruction of the type and duration presented in this research is insufficient for significant refinements of each dimension, 3) that children have many novel and useful ideas for developing a more inclusive concept of "away," and 4) that without interviews or instruction, children tend to assign non-specific spatial and temporal qualities to the concept of "away."

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: The Development of An Instrument to Measure Energy Use Attitudes Among Junior High School Students

AUTHOR: Lawrence Allan MORTON **DATE OF COMPLETION:** Nov. 1980

INSTITUTION: The Pennsylvania State University

DEPARTMENT / PROGRAM: Recreation and Parks

THESIS ADVISOR: Dr. Betty van der Smissen

WHERE FULL THESIS IS AVAILABLE: Interlibrary Loan, Pattee Library, The Pennsylvania State University, University Park, PA, 16802

To help fill the void created by the lack of evaluative instruments in the field of energy education, 2 pilot instruments were developed using a Likert format, each consisting of 40 statements and certain demographic information. The statements were designed to cover 9 energy content areas which were derived from the analysis of 13 students from the Boyertown Area Junior High School--West Center, Boyertown, Pennsylvania. Data from the pilot instruments was analyzed using the "Likrt" computer program to determine adjusted item-total correlations and coefficient alpha values. The 20 items selected for the final instrument were all significant at the .05 level and the weighting of the 9 energy content areas was maintained. Coefficient alpha values for the pilot instruments were .719 and .777. The final instrument was administered to 551 students from the same school as the pilot population. All but one of the 20 items on the final instrument was significant at the .05 level, and the coefficient alpha value was .755. Based on the foregoing analysis, this energy attitude instrument does discriminate between energy use attitudes of junior high school students both male and female.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : INTERNAL LOCUS OF CONTROL AS A PREREQUISITE TO ENVIRONMENTAL ACTION TAKING: AN ASSESSMENT OF THE YOUTH CONSERVATION CORPS

AUTHOR : Barbara Ann Miller **DATE OF COMPLETION** May, 1980

INSTITUTION : Michigan State University

DEPARTMENT / PROGRAM : Dept. of Fisheries & Wildlife

THESIS ADVISOR : Dr. R. Ben Peyton

ADDRESS OF AUTHOR : 1560 Woodside St., E. Lansing, Michigan

WHERE FULL THESIS IS AVAILABLE : Dept. of Fisheries and Wildlife, Michigan State University

The locus of control (L of C) theory suggests that citizens with an internal L of C may be expected to be more autonomous and better informed problem solvers than externals, and to more frequently participate in environmental action. The L of C theory is reviewed and is used as a basis for a paradigm of environmental action.

Some dimensions of the environmental action paradigm were tested. The study involved 318 Michigan youth in a paper and pencil assessment of their L of C, concern for environmental issues, and involvement in environmental action. A key objective was to determine the influence of the Youth Conservation Corps (YCC) experience on participants' L of C and to identify relationships among the dependent variables.

Findings indicated that YCC had no influence on L of C as measured in the study. However, internal L of C and the relative importance participants attribute to environmental issues, are positively correlated with the extent to which participants engage in environmental action. This relationship supports a basic premise of the proposed paradigm. Further, females in the study were significantly more internal than males.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Autotutorial Approach To The Teaching of Water Quality At the Secondary Level Based on Piaget and Kephart Philosophies

AUTHOR: Ronald Vander Velden **DATE OF COMPLETION:** May, 1978

INSTITUTION: University of Wisconsin-Green Bay

DEPARTMENT / PROGRAM: Graduate Studies in Environmental Arts and Sciences

THESIS ADVISOR: Richard W. Presnell, Ph.D.

WHERE FULL THESIS IS AVAILABLE: University of Wisconsin-Green Bay, Green Bay, WI 54302

An auto-tutorial program was developed to meet the need for a method of environmental instruction of water quality based on Piaget and Kephart philosophies. The series of filmstrips, cassette tapes, and printed materials were used by two groups of students at Kaukauna High School. Two groups of students under two different instructors were exposed to a lecture approach to the same subject matter. Both groups of students exposed to both methods of instruction were pre and post tested to measure cognitive and affective change. Data was then analyzed and conclustions drawn: students exposed to the auto-tutorial approach showed affective and cognitive change at approximately the same rate as those exposed to a lecture approach.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: A Study of Differences Between a Single Discipline Approach and an Interdisciplinary Approach in Teaching Environmental Education at the Middle School Level

AUTHOR: Elizabeth J. Page **DATE OF COMPLETION:** Aug. 1980

INSTITUTION: Ball State University, Muncie, Indiana

DEPARTMENT / PROGRAM: Dept. of Natural Resources

THESIS ADVISOR: Dr. Charles O. Mortensen

WHERE FULL THESIS IS AVAILABLE: Bracken Library, Ball State University

This thesis has studied the differences in value change of different groups of eighth grade students when exposed to different lessons on a particular aspect of the environment (forests) ranging from a single discipline approach to an interdisciplinary approach--utilizing the subjects of science and history.

Three groups viewed a historical-social, biotic, and historical-social-biotic (combination) presentation respectively and were then administered a test (the Semantic Differential developed by Osgood, Suci, and Tannenbaum, 1957). In addition, there was a control group (administered the test only) to determine if there were any significant value changes held by the students after viewing the presentations.

The results of the study were broken down into four groups. The test results of males and females were also computed because of the difference in development within this age group. The two-way analysis of variance (ANOVA) was used to analyze the findings.

The study showed no significant differences between group mean scores. In this research, therefore, no value change occurred as a result of viewing the presentations nor were there differences as a result of subject matter presentation.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Content Analysis of Pictures Drawn by Preschoolers in Response to a Nature Interpretation Program

AUTHOR: Sara Lustbader **DATE OF COMPLETION:** 1979

INSTITUTION: University of Maryland, College Park

DEPARTMENT / PROGRAM: Agricultural and Extension Education/Environmental Education

THESIS ADVISOR: Dr. Jack Wheatley

WHERE FULL THESIS IS AVAILABLE: University of Maryland, College Park

Research and available literature provide very little information on preschool visitor feedback to nature centers. This study was designed to determine the significant aspects of a preschool nature interpretation program through content analysis of pictures drawn by participants.

During April 18 and 25, 1979, two preschool classes visited Meadowside Nature Center in Montgomery County, Maryland. Each class of nineteen four-year old students participated in a "Seasons in the Park" interpretation program. This naturalist-led program includes a film, a hike, and interpretive activities emphasizing the spring season in the forest community. Upon returning to their school, the preschoolers drew pictures about their visit. Drawn items were then categorized based on experiences which the naturalist intended to provide. The five categories included an introduction, movie, close-up examination of an animal, hike, and visit with the facility's pet rabbit.

Though each category has equal chance of being drawn, chi-square analysis reveals that some categories were drawn more often and some were drawn less often. The experience most commonly drawn was the hike. No significant differences in experiences drawn was due to sex. Time of class meeting (morning or afternoon) did influence the number of items drawn.

Analysis of pictures is not expensive or a burden on the naturalist or visitors. Especially with preschool visitors, analysis of pictures provides useful and meaningful insights into the preschoolers' responses toward a nature interpretation program.

5. Teacher-Centered Studies

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: DEVELOPING A SKILLED ENERGY WORKFORCE: THE INTEGRATED TRAINING EXPERIENCES CONCEPT

AUTHOR: EMILY S. BUCKMAN **DATE OF COMPLETION:** DEC 1980

INSTITUTION: NORTHEASTERN ILLINOIS UNIVERSITY

DEPARTMENT / PROGRAM: GEOGRAPHY & ENVIRONMENTAL STUDIES

THESIS ADVISOR: DR. BARBARA J. WINSTON

WHERE FULL THESIS IS AVAILABLE: NORTHEASTERN ILLINOIS UNIVERSITY

The thesis investigated the relationship between employer and educator in energy vocational training and developed the Integrated Training Experiences concept. The initial stage involved determining the occupational categories and skill needs of four energy-related industries in Illinois: coal mining, petroleum production, power plant operation, and solar energy enterprises. Also identified were appropriate Illinois community college training programs and curriculum. Field investigation included analyzing and evaluating exemplary programs at several Illinois colleges where employer-educator relationship was strong.

Any opportunity to perfect the workforce's competencies through vocational training helps the immediate goal of improving present technology and affects the long-term objective of changing attitudes toward energy production and consumption. The Integrated Training Experience (ITE) is defined as educator and employer collaboration in training. It is a holistic approach in which the responsiblity for vocational instruction is shared by school and industry rather than delegating this authority exclusively to the school. The ITE concept is a series of developmental stages based upon collaboration and culminating in economically and environmentally sound productivity. The collaboration is the foundation upon which a variety of activities in three areas are built: curriculum planning and evaluation, resource sharing, and interaction outside classroom instruction. These activities develop the workforce's competencies in basic knowledge, communication, decision making and work attitude. The ITE concept is analyzed and evaluated in terms of three components: 1) the participants, primarily the educators and employers, and students either as prospective employees or as employees receiving on-the-job training; 2) the objective--providing appropriate training that enables one to acquire competency in performing occupational tasks; and 3) the particular ITE activity. The economic, educational, and civic benefits that accrue to industry, school and students are identified. Consideration of the constraints to implementing ITE is also given. Although obstacles may occur due to economics, time, the environment, conflict of interest, or lack of liaison personnel, in most cases they can be overcome by divising alternative procedures. The thesis concludes with a series of recommendations for implementing the ITE concept.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Assessment of the School Zoo Field Trip

AUTHOR: Elizabethann Marshdoyle **DATE OF COMPLETION:** March 1980

INSTITUTION: The Ohio State University

DEPARTMENT / PROGRAM: School of Natural Resources/Division of Environmental Education

THESIS ADVISOR: Mary Lynne Bowman

WHERE FULL THESIS IS AVAILABLE: The Ohio State University Library

Zoos have established education as one of their objectives. In order to achieve this objective, zoos provide educational programs to the public. Most of these educational programs are non-formal and conducted by volunteers. Although some research has focused on the zoo visitor, limited empirical investigation has been conducted on zoo education programs.

This study assessed the learning that occurred as the result of an educational service available at the Columbus Zoo near Columbus, Ohio: the school zoo field trip. The study also sought to survey the teacher's purpose and preparation in conducting the zoo field trip. The study conducted in 1979, involved teachers and students who visited the zoo during the year.

Description and analysis of the data sets were conducted, and results were as follows:

1. Learning did occur as the result of a school zoo field trip.
2. Most teachers who conducted zoo field trips had an educational purpose for conducting the field trip.
3. There is a positive correlation between those teachers who accomplished their objectives and the degree of satisfaction experienced by the teachers.
4. Most teachers favored the expansion of the zoo's role in providing educational materials.
5. Most teachers incorporated the zoo field trip into the curriculum by conducting pre-trip and follow-up activities.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Issues in the Recruiting and Training of Volunteer Field Guides in a Public School Environmental Education Program

AUTHOR : Mary MacGinitie Ferm **DATE OF COMPLETION** July 1980

INSTITUTION : University of Michigan, School of Natural Resources

DEPARTMENT / PROGRAM : Behavior and Environment/Instruction

THESIS ADVISOR : William B. Stapp

ADDRESS OF AUTHOR : c/o Dept. of Behavior and Environment, School of Natural Res. Univ. of Mich. Ann Arbor, MI 48109

WHERE FULL THESIS IS AVAILABLE : Univ. of Mich. Natural Science Library, and Univ. of Mich. School of Nat. Res. Behavior and Env. Dept. Office

A survey of recent literature revealed that the use of field trips in public school environmental education programs has been increasing but is expected to level off in the future due to costs of providing transportation and personnel. The Ann Arbor Public Schools program has for nineteen years successfully used volunteers to alleviate the staffing problem. Recently the effort to reduce transportation costs has led to the use of sites closer to schools. This strategy increases the number of sites used and therefore makes volunteer training more difficult. Currently, there is no active recruitment program, and the only way volunteers learn to guide trips is by observing school field trips. Consequently, trainees are slow to gain confidence and assume responsibilities, and the program is sometimes short of field guides.

For this thesis, a one-semester training program was developed and new volunteers were recruited. Twenty-four college students participated; no community people responded. The program consisted of weekly workshops, weekly observation of field trips, and short research assignments. During the workshops, trip sites were visited, various natural history topics were covered, guiding skills were demonstrated and practiced, and school field trip experiences were discussed. Students received two semester hours of non-graded credit. The training program was evaluated using 1) pre- and post-tests on trainee knowledge, skills, and self-confidence, 2) data on trainee interest and participation in the training program and public school field trip program, and 3) trainee and public school staff responses to questionnaires on the training program and the use of volunteers by the public schools.

From this evaluation, a set of recommendations for use of volunteers and for a future training program was developed.

Environmental Education / Communication Project or Thesis Report Form

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National Association for Environmental Education

TITLE : A DESCRIPTION OF PROGRAM GOALS OF SELECTED RESIDENT OUTDOOR ENVIRONMENTAL EDUCATION CENTERS IN THE STATE OF OHIO

AUTHOR : Dennis H. Wiegman DATE OF COMPLETION August 18, 1980

INSTITUTION : The Ohio State University

DEPARTMENT / PROGRAM : School of Natural Resources -- Div. of Environmental Ed.

THESIS ADVISOR : Dr. Robert Roth

ADDRESS OF AUTHOR : 3750 E. Powell Rd., Westerville, Ohio 43081

WHERE FULL THESIS IS AVAILABLE : The Ohio State University Library, the School of Nat. Res., the Env. Ed. Div., or the author.

This study described the goals for nine resident outdoor/environmental education centers in Ohio. Subproblems were to: (1) identify the most and least important goals of the resident center directors, (2) identify the most and least important goals for each center, board members, teaching staff, and visiting teachers, and (3) compare the individual director's goals with the goals of all of the respondents for the respective centers.

Interviews with the directors were used to obtain goal statements which were then developed into a questionnaire. About forty-five percent of the questionnaires were returned and summarized.

Of those that responded, the most important goals were identified as "social growth," "personal growth," "hands on learning," and "values about the environment," "specific concepts," "body of knowledge," "pioneer history," "creative leisure time activities," and "ministry of our organization."

By center, the most important goals were also "social growth" and "personal growth." In addition, the teaching staff and visiting teachers chose "hands on learning" and "values about the environment," while the directors chose "feel good about the environment" and "hands on learning." The individual director's goals did not always correspond to the goals of the remaining respondents from their respective centers.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Recreational Leadership and Adolescent Self-Concept Change in a Two Week Residential Camp Program

AUTHOR: David Michael Griffin DATE OF COMPLETION: 1979

INSTITUTION: Clemson University

DEPARTMENT / PROGRAM: Department of Recreation and Park Admin./M.RPA

THESIS ADVISOR: Herbert Brantley

WHERE FULL THESIS IS AVAILABLE: Dept. of Recreation & Park Admin., Clemson University, CTemson, SC 29631

This study endeavored to discover whether a relationship exists between types of leadership style used by summer camp counselors and self-concept changes observed in campers in a two week summer camp program. A YMCA camp in Pennsylvania was chosen as the site, and 40 male and female campers between the ages of 13 and 16 were the participants. Campers were distributed in 13 cabins. A modified Tennessee Self Concept Scale (MTSCS) were used as the test-retest measure of camper self-concept. Counselor consideration was measured by the leadership employee-orientation and Differentiation (LEAD) test. Counselors were tested at the start of the session, while campers were tested at both the start and completion of the program. The effective duration of the study was 12 days. Counselor consideration scores were divided into two groups by a median split, and a two-way analysis of variance was done on the effects of counselor consideration on camper self-concept change. A significant (.05) positive relationship between levels of consideration and degree of positive self-concept change was indicated. MTSCS subscales or perception of moral-ethical and social self, and self-satisfaction were also significant at the .05 level. Recommendations of the study include the use of personal interviews and leadership behavior description questionnaires to determine the level of consideration of prospective camp counselors, as well as the institution of in-service training programs to further develop levels of consideration (43 pages).

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: CURRICULUM FOUNDATIONS FOR NATURALIST TRAINING: A DESCRIPTIVE STUDY

AUTHOR: James C. Shuman **DATE OF COMPLETION:** Nov. 1978

INSTITUTION: West Virginia University

DEPARTMENT / PROGRAM: Division of Forestry, Dept. of Recreation and Parks

THESIS ADVISOR: Joseph M. Hutchison, Jr.

WHERE FULL THESIS IS AVAILABLE: West Virginia University Library
Morgantown, WV 26506

Curriculum foundations for naturalist training are investigated through synthesis of information on 1) definitional problems and historical antecedents to nature interpretation, 2) roles and numbers of jobs for naturalists, 3) suggested competencies and behavioral traits needed by naturalists, and 4) types of training opportunities presently available. Some distinctions are drawn between naturalists' work in parks, nature centers and museums, school camps, and school districts as environmental educators. Resulting implications of the information include that:

1) Interpretive naturalists, outdoor educators, and environmental educators have sufficiently different job descriptions to necessitate somewhat different training.

2) Naturalist work requires a knowledge base so broad that it is difficult to effect both technical competencies and a liberal education within a four-year curriculum.

3) The differences between pre-service and in-service training have not been acknowledged by academic institutions and employing agencies. Opinions vary widely on the sequencing of subject matter.

4) Certification of naturalists and accreditation of training institutions are becoming important considerations.

5) The present number of full-time jobs for naturalists in the U.S. appears to be too small to accomodate the number of graduates seeking employment.

6) Naturalists' personalities are such a vital part of their work that they must be considered in their training.

7) There is a need to provide naturalists with ethical preparation as well as subject matter and skill-building.

6. Citizen-Centered Studies

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: AN INVESTIGATION OF THE RELATIONSHIPS BETWEEN PERCEPTION OF SELF AND PERCEPTION OF AN ENVIRONMENTAL CHALLENGE-- THE ENERGY SITUATION

AUTHOR: Linda E.W. Weaver **DATE OF COMPLETION:** June 1980

INSTITUTION: The University of Calgary

DEPARTMENT / PROGRAM: Faculty of Environmental Design

THESIS ADVISOR: Dr. Stephen Herrero

WHERE FULL THESIS IS AVAILABLE: Faculty of Environmental Design, University of Calgary, Calgary, Alberta, Canada T2N 1N4

My purpose was (1) to demonstrate that an individual's perception of the locus of control in general and in specific situations has some predictable results in the way he perceives the power of an environmental change and his role regarding that change; and (2) to demonstrate the necessity for acquainting planners with the concept of locus of control and the individual's ability to cope with an environmental problem.

Locus of control is defined as a self-appraisal pertaining to the degree to which individuals view themselves as having some causal role in determining events. An 88 item questionnaire was developed to assess the individual's perception of his own power and resistance and that of other people and events in various situations. These items were related statistically to his scores on energy information, whether he was in favor of rationing and his perception of the present and the most ideal locus of control of the energy situation.

The results show that the energy situation must be powerful but cannot be resistant in order for the individual to desire herself and other people as a locus of control. The amount of information one gathers about the energy situation is related to a perception of high power of self and others, and some vulnerability of people to the energy situation. The person not in favor of rationing has associated with his choice, statements involving external controllers in his and other people's lives with the exception of the control of his own happiness. Generally, control was perceived to be stationed in self or it was not. There was a distinction between general internal and external control. The results show relationships between perceptions of interpersonal relationships and the dependent variables.

I concluded that the concept of internal versus external control has value in predicting the dependent variables and other behavior when one pinpoints the power a situation or individual has by: The degree of control (high or low); The type of control (resistance or power) held by various specific loci in the situation; The motivation to control internal feelings (maintain happiness) versus external circumstances; Whether power of self is seen to be similar to or different from power of others in the same situation; and The perceived accessibility of other people.

I further concluded that a planner could consciously create a working environment whereby the individual is perceived to be valuable and thusly facilitate the development of positive internal control by the individual.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: A Survey of Visitor Knowledge of Urban Mammals in Two Montgomery County, Maryland Nature Centers

AUTHOR: Julie Ann Melvin/John Michael Baines **DATE OF COMPLETION:** 1977

INSTITUTION: University of Maryland, College Park

DEPARTMENT / PROGRAM: Agricultural and Extension Education/Environmental Education

THESIS ADVISOR: Dr. Jack Wheatley

WHERE FULL THESIS IS AVAILABLE: University of Maryland, College Park

From January 1977 through March 1977 two Montgomery County, Maryland nature centers distributed a survey to determine the knowledge weekend visitors had concerning 10 common mammals of Montgomery County, Maryland. The authors hoped to determine what knowledge people already knew, and what knowledge needed to be given to them. The survey consists of five topic areas. These areas were identification, whether the animal was common or not common to Montgomery County, habitat, food preference, and life habits. A chi-square for independence was used to determine if there was any relationship between the score on the test and sex, age, education, occupation, or group with which people visited the nature center. From the chi-square test a significance at the .05 level was found for age and group.

Data collected indicate the following. The majority of weekend visitors are family groups. A large proportion of the weekend visitors are highly educated and between the ages of 13 and 39. Most of the visitors could identify and name the habitat of the common mammals, but were unable to correctly choose their food preferences, and life habits.

On the basis of data collected the author recommends that exhibits be designed telling a complete story about mammals that are not commonly seen. These exhibits should incorporate motion, recorded sound and shifting light. Exhibits such as these will help improve the weekend visitors knowledge of common mammals in Montgomery County, Maryland.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : AN EDUCATIONAL PROGRAM TO PREPARE CITIZENS FOR PARTICIPATION

AUTHOR : Linda-Jo Schierow **DATE OF COMPLETION** May, 1980

INSTITUTION : University of Wisconsin-Madison

DEPARTMENT / PROGRAM : ~~Institute for Environmental Studies/Land Resources~~

THESIS ADVISOR : Dr. Gordon Chesters

ADDRESS OF AUTHOR : Water Resources Center
1975 Willow Drive Madison, WI 53706

WHERE FULL THESIS IS AVAILABLE : UW Memorial Library
Madison, WI 53706

Federal regulations require agencies administering natural resource projects to inform and educate interested and affected citizens so that they will better understand and be able to participate in local programs. Over the past ten years, public involvement specialists in water resource agencies have developed quite sophisticated mechanisms for transmitting information to the general public and for receiving public input. However, few public involvement programs are designed to lead citizens beyond a superficial knowledge of project plans to a meaningful understanding of the resource issues. Citizens who choose to participate in water resource planning find that information is available, but instruction is not. As a result, information and education programs often do not prepare citizens for participation.

In this paper, goals for information and education are identified from federal regulations and the literature of public involvement, the development of agency educational programs over the last ten years is described, and changes in program format are recommended. The best currently-available educational technology was used to develop guidelines for the design of effective educational programs in governmental agencies administering informal adult programs. Based on generalizations derived from research findings and learning theories of professional educators and psychologists, the guidelines describe interrelationships between instructional conditions and learning outcomes, specify a program planning process, and suggest an individualized educational program appropriate for informal public education by natural resource agencies.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Policy Implications Derived from a Coorientational Evaluation of the Communications Environment of a Natural Resources Agency and its Citizen Clientele

AUTHOR: John N. Trent DATE OF COMPLETION: 1981

INSTITUTION: University of Wisconsin- Madison

DEPARTMENT / PROGRAM: Agricultural Journalism

THESIS ADVISOR: Larry R. Meiller

WHERE FULL THESIS IS AVAILABLE: Dept. of Agricultural Journalism

The study was contracted by the Wisconsin Department of Natural Resources (DNR) to evaluate an intensive effort intended to both improve and assess agency-citizen communications. Data were collected in 1976 from personal interviews with 43 DNR employees who had work responsibilities in either Richland or Lafayette County. Also interviewed were 174 residents selected from a general population sample in those counties and an additional 20 "resource influentials" nominated by both citizens and DNR employees. Interviews centered on nominating and importance-rating "resource problems" for the appropriate county , using coorientational research measures. DNR employees were also queried on their perceptions and participation in the intensive DNR communications effort.

Agency employees, citizens and resource influentials all showed high levels of concern about local natural resource issues. They generally agreed, bu oft en thought they disagreed, on the importance of given resource problems in the counties studied.

Only two years after Watergate and persistent statewide criticism of DNR, the agency appeared to enjoy a remarkable degree of public support in the area studied. Citizen recommendations for improving DNR performance stressed the need for public participation in decisions affecting local people and in increasing DNR sensitivity to the needs of local people. DNR employees recognized the need to improve communications with the public by improving DNR performance, encouraging interpersonal dialogue with the public and by improving DNR use of mass media.

In the rural counties under study, an important form of communication and evaluation between DNR and residents is through personal contact. The intricate web of contact and communication between theagency and its publics is seen to leave DNR open to public dissatisfaction. One unsatisfactory experience with any one of many DNR employees could poisen the well for other agency programs and relationships.

Resource influentials as they were identified in the study appeared to be important bridges between DNR and county residents. However these influentials do not accurately reflect all citizen views nor can they serve as spokesmen for all citizens. For a detailed account of DNR-citizen-influential relationships in these counties and an attempt to manipulate them over time, see Karbon, 1980 (Coorientation in Resource Management: A Strategy for Assessing Communication and Consensus between a Complex Organization, Ph.D. dissertation, University of Wisconsin-Madison).

Coorientational measurement can be used as a sensitizing device to help DNR employees see the world the way citizens see it and to encourage DNR employees to become more accurate in their perceptions of citizen's needs. Coorientation can also be used to help agency employees and citizens specify what each group views as the relevant attributes of a specific resource issue ore problem.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

Title Reclaiming Onondaga Lake: The Role of Community Attitudes

Author Richard E. Vertigan **Date of Completion** Sept. 1980

Institution SUNY College of Environmental Science and Forestry, Syracuse, NY

Department or Program Graduate Program in Environmental Science

Thesis Advisor Dr. David L. Hanselman

Address of Author 200-3 Thurber Street, Syracuse, NY 13210

Where Full Thesis is Available Moon Library, SUNY ESF, Syracuse, NY

This study was based on the premise that Onondaga Lake, near Syracuse, New York, with a long-standing reputation as one of the most polluted bodies of water in the country, no longer deserves that reputation, and must undergo a change of public image if recreational plans for its future are to meet with popular success.

To provide direction for future efforts to upgrade the lake's image, a survey was undertaken in three communities surrounding the lake. Attitudes of tenth-grade students were measured in four areas: (1) blame for the lake's pollution, (2) optimism or pessimism for its future, (3) perceptions of its present condition, and (4) amount of concern about improving the lake for future use. Past levels of recreational use and sources of information about the lake were also measured. The three communities sampled were then statistically compared, and similarities and differences noted. Finally, recommendations for improving certain attitudes were offered based on these findings. It is felt that the results should prove useful to local government agencies, educational institutions, and other community groups who could potentially become involved in promoting a greater understanding and acceptance of Onondaga Lake as a recreational and educational asset to the central New York area.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Study of Land Use and Preservation with Emphasis on the Feasibility of Maintainence of Open Space in the Piedmont Triad Region of North Carolina.

AUTHOR : Holly Cullum Walker **DATE OF COMPLETION** Spring 1980

INSTITUTION : University of North Carolina at Greensboro, Greensboro, North Carolina.

DEPARTMENT / PROGRAM : Education Department: Master of Arts in Education (Environmental studies)

THESIS ADVISOR : Dr. Ernest W. Lee

ADDRESS OF AUTHOR : Quailmeadow Lane, Route 1 Box P-31, Colfax, North Carolina, 27235.

WHERE FULL THESIS IS AVAILABLE : University of North Carolina at Greensboro, Greensboro, North Carolina.

It was the purpose of this study to investigate the feasibility of various methods of maintaining open space and encouraging continued agriculture in an urbanizing area.

A section of land in the Piedmont Triad region of North Carolina, which had been chosen as a possible limited conservation area by the Piedmont Triad Council of Governments, was the area selected for the study. A census survey was formulated in order to assess the opinions of the land owners in the Guilford County section of the projected limited conservation area.

The major results of the survey were twofold: first, the landowners expressed deep concern for the loss of farmland to urban growth and their desire to maintain agriculture in the Piedmont Triad region; and second, they expressed resentment of outside interference in decisions regarding their land.

The major conclusion of this study is that an area such as the Piedmont Triad region of North Carolina, with its valuable land and water resources, needs to be protected from uncontrolled development. The maintainance of open space would ensure the protection of agricultural land and water resources in the area, both of which are vital for the continued well-being of the residents of the region.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Richland County Farmers' Perceptions of Non-Point Source Pollution

AUTHOR : Kurt W. Guthnecht DATE OF COMPLETION 1979

INSTITUTION : University of Wisconsin-Madison

DEPARTMENT / PROGRAM : Agricultural Journalism

THESIS ADVISOR : Larry Meiller

ADDRESS OF AUTHOR : Agricultural Journalism Dept. Univ. of Wis.
440 Henry Mall Madison, Wis. 53706

WHERE FULL THESIS IS AVAILABLE : Agricultural Journalism Dept. same as author's address

Fifty farmers from Richland County, Wisconsin, were interviewed in an exploratory study that examined their perceptions of nonpoint source pollution and sought to determine whether their views of nonpoint source pollution were linked with other variables, including their views of soil conservation, water quality, and sources of information about soil conservation, personal characteristics, and situational factors.

Findings indicated that few farmers were aware of the relationship between soil erosion and water pollution in the area when questions did not specifically link the two concepts.

Some of the findings also indicated that farmers' perceptions of soil erosion as a source of surface water pollution may be linked with situational factors such as land topography and whether or not their farm borders surface water.

There were no clear relationships between the other variables studied and farmers' perceptions of nonpoint source pollution.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: An Investigation of the Valuative Components of Attitudes Related to the Concept of Nuclear Power

AUTHOR: Alfred J. Girondi DATE OF COMPLETION: November 1980

INSTITUTION: The Ohio State University

DEPARTMENT / PROGRAM: Educational Foundations and Research/Environmental Education

THESIS ADVISOR: Dr. Charles Galloway, Dr. Robert Roth, Dr. B. Thomson

WHERE FULL THESIS IS AVAILABLE: The Ohio State University Library

The purpose of this investigation will be to compare the valuative components of attitudes of dissenting groups on issues related to nuclear power. Groups to be studied will include antinuclear activists; pronuclear spokespersons; scientists, engineers, and graduate students in the nuclear field; and a random sample of the general public. An attempt will be made to determine whether the attitudes of these groups are based on the same or differing sets of value components. Further, it will be of interest to note whether or not the number of components differs for the various groups being studied. A minimal number of components would indicate that a group has adopted a rather holistic view of the problem or issue, while a larger number would suggest that a group has viewed the issue as being composed of a number of significant sub-issues.

This investigation is not merely an attempt to measure attitudes, but it is an attempt to achieve a more fundamental understanding of them. Energy education is becoming more and more important as the world energy crisis deepens. Both the adult and school-aged populations of our country need a basic understanding of the crisis itself and of the political and institutional barriers which must be considered as we plan our energy future. In order to develop effective programs in educational institutions it is not sufficient just to know what public attitudes are, but we must endeavor to understand why those attitudes exist. Education should address itself to causes rather than symptoms. This is particularly important in areas where dissention exists such as is the case with nuclear power. Public support for our future energy plans is imperative; however, such support requires that understanding take the place of dissention. It is to this end that this investigation is directed.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: A Citizen's Guide to the Use of Transferable Development Rights in the New Jersey Pinelands

AUTHOR: Victoria Leigh Johnston **DATE OF COMPLETION:** May 1980

INSTITUTION: Duke University

DEPARTMENT / PROGRAM: School of Forestry and Environmental Studies

THESIS ADVISOR: Dr. Jack P. Royer

WHERE FULL THESIS IS AVAILABLE: Office of the Dean, School of Forestry & Env. Studies

Transferable development rights (TDRs) are a viable land management option for the New Jersey Pinelands. A TDR program can encounter difficulty in gaining acceptance if the public is uninformed. This citizen's guidebook is designed to inform the citizen of how a TDR program would work. It reviews the ecological and economic significance of the Pinelands as well as the preservation versus development controversy. An outline for the construction and implementation of a TDR progam is presented and the significant legal, political and economic TDR issues are reviewed. The conclusion summarizes the advantages and the drawbacks of the implementation of the program.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Lake Associations as Environmental Groups: A Study of the Lake Associations of Genesee County, Michigan

AUTHOR : Christopher N. Hull **DATE OF COMPLETION** April, 1980

INSTITUTION : The University of Michigan School of Natural Resources

DEPARTMENT / PROGRAM : Behavior and Environment, Environmental Advocacy

THESIS ADVISOR : Assoc. Prof. Bunyan L. Bryant; Assoc. Prof. Patricia A. Bidol

ADDRESS OF AUTHOR : Christopher N. Hull, P.O. Box 201, Goodrich, MI 48438; or University of Michigan School of Natural Resources, Ann Arbor, MI 48109.

WHERE FULL THESIS IS AVAILABLE : Natural Science Library, University of Michigan, Ann Arbor, MI 48109; or above program office.

Nine lake associations (riparian homeowner activist groups) in Genesee County, Michigan were studied in 1979. A survey methodology was employed to interview group leaders and obtain organizational histories of each group in order to determine group characteristics, motivations, activity, and success as related to issues affecting environmental quality.

It was found that each group studied dealt substantially with environmental quality of the lake around which it was located. Issue areas engaged by groups were: water pollution, development and land use, lake traffic and use, lake level, and miscellaneous community services. Methods employed by the groups involved both direct and indirect action techniques, the latter including communicational and educational strategies, while direct action techniques often relied upon heavy entrenchment in local community politics.

Every group studied achieved measurable success in several or all of the above issue areas. In addition to being effective change agents, associations opened community decision-making processes to the public and served as a forum upon which local issues were clarified, defined, discussed, and usually resolved. The concensus decision-making which lake association activity promoted fostered harmony and cohesiveness within the communities studied. Groups varied in the manner, intensity, and effectiveness with which they pursued environmental goals, and in the orientations and directions which they followed in general. The most prevalent causes for these variations were: leader/member characteristics (socioeconomic and educational levels, orientation toward the environment, and size of the group); the natural and sociopolitical environment in which the group was found, especially in the amount of support received from that environment in the form of riparian voter support and cooperation from local governmental bodies; and the organizational structure of the group. A discussion of these factors is held.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: EDUCATION FOR ENERGY AND RURAL DEVELOPMENT IN THAILAND

AUTHOR: Cynthia A. Lowry **DATE OF COMPLETION:** December 1980

INSTITUTION: University of Hawaii

DEPARTMENT / PROGRAM: Educational Foundations

THESIS ADVISOR: William H. Boyer

WHERE FULL THESIS IS AVAILABLE: Sinclair Library, University of Hawaii

In Part I rural poverty in Thailand is assessed. Poverty and human suffering are extensive and increasing. It is hypothesized that energy education could substantially improve rural life and accelerate the national development process.

Part II develops a framework for analyzing educational needs for energy and rural development. The present Formal Education system cannot adequately meet these needs. Accelerated rural development will require increased investment in Non-Formal and Informal educational modes.

The development of affordable and sustainable energy resources to fuelwood and fossil fuels requires greater utilization of waste materials, intermediate technologies and human resources. Skill-training requirements for development and operation of biogas systems illustrates the need for multi-disciplinary and self-help approach to energy and rural development.

Part III is a supplementary discussion of energy resource systems, energy problems in Thailand, indigenous energy alternatives, and the specific manpower skill levels associated with the development of each.

7. Resources, Administration and Others

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: The Development and Application of Program Materials for the Urban Park and Recreation Recovery Program, A Federal Recreation Grants-in-Aid Program, Heritage Conservation and Recreation Service

AUTHOR: Runore C. Wycoff **DATE OF COMPLETION:** 1980

INSTITUTION: University of Maryland, College Park

DEPARTMENT / PROGRAM: Agricultural and Extension Education/Environmental Education

THESIS ADVISOR: Dr. Jack Wheatley

WHERE FULL THESIS IS AVAILABLE: University of Maryland, College Park

The Urban Park and Recreation Recovery Program (UPARR) is a federal funding program of grants-in-aid to local governments for the rehabilitation and revitalization of urban recreation systems. UPARR, Title X of the National Parks and Recreation Act of 1978, is administered by the Heritage Conservation and Recreation Service, U.S. Department of the Interior.

Although the UPARR program is almost two years old, and grants totalling more than $100 million have been made to more than 250 jurisdictions, there does not yet exist a concise and comprehensive reference manual describing the total UPARR program for grant applicants, program administrators, or the general public.

Using the case study method of research, this project takes the various program regulations, guidelines, policies, and informational materials of the UPARR program to date, analyzes and arranges the material into logical and sequential order, and develops the information chapters of a UPARR Grants-in-Aid Manual. Ten separate program elements were identified as being those facets of the program which have generated the most questions, comments, and problems. These ten elements became the basis for the ten information chapters of the Manual.

The paper begins with a brief history of the federal role in the provision of urban recreation, leading up to the passage of the UPARR legislation in 1978. A narrative description of the UPARR program follows; its aims and objectives, the types of grants available, and the implementation of the program to date by both the Washington and Regional Office staffs of the Heritage Conservation and Recreation Service. The need for the program information chapters and the Manual is followed by a review of literature related to the development of federal recreation grants-in-aid programs, articles and studies related to urban recreation and UPARR. In contrast to the many studies of federal program results, there are relatively few studies dealing with the important subject of day-to-day implementation. This project will be a contribution to that area of research.

Each of the ten informational chapters covers a specific program element in detail, with cross-references to other chapters where appropriate. The aim is to make it possible to quickly and easily obtain complete information on the separate program elements by reference to a single chapter of the Manual, a feature not present in any of the manuals the investigator researched.

The result of the project is to consolidate all UPARR program related information into one document, replacing a proliferation of documents with a single, consistent, and systematically arranged program reference manual for the two primary audiences identified, grant applicants and program administrators.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: A Survey of the Current Use of Information and Education within Natural Resource Management Agencies

AUTHOR: Robert R. Mindick **DATE OF COMPLETION:** April, 1981

INSTITUTION: University of Idaho

DEPARTMENT / PROGRAM: Wildland Recreation Management

THESIS ADVISOR: Dr. James R. Fazio

WHERE FULL THESIS IS AVAILABLE: University of Idaho

Communication efforts are an integral part of any management operation. Providing information to citizens and legislators is the primary responsibility of and reason for Information and Education (I&E). For public supported natural resource management agencies it is a necessity for generating public support and future funding. This study is a survey of the state-of-the art of the current use of I & E by personnel in governmental natural resource management agencies in the United States and Canada.

Governmental agency I & E units' responses to a mail questionnaire were recorded and analyzed. Appropriate comparisons were made with other governmental natural resource management agencies, private natural resource oriented industry and professional recommendations. Descriptive information was also gathered on budgets, personnel, film libraries, printed communication efforts, and audio/visual communication efforts.

Results indicated that I & E efforts by governmental agencies were very meagerly funded and staffed when compared to private industry (involved in natural resource management) and professional recommendations. Despite relative inadequacies in funding and staffing, I & E activities and resources were widespread throughout.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Establishing Criteria for Comprehensive Planning of Environmental Education Programs

AUTHOR: Thomas J. Marcinkowski **DATE OF COMPLETION:** April 24, 1981

INSTITUTION: Southern Illinois University at Carbondale

DEPARTMENT / PROGRAM: Department of Forestry

THESIS ADVISOR: Dr. Paul A. Yambert, Professor

WHERE FULL THESIS IS AVAILABLE: Southern Illinois University at Carbondale

For the last dozen years or so, Environmental Education (EE) has been undergoing a process of continual expansion and self definition. Problems associated with self-defination efforts have carried over into the delivery of E.E.; i.e. to educational programming. Problem areas include identifying which roles preceding educational movements, contemporary movements, research literature implications and the suggested roles of educational institutions play in EE programming. As the body of literature addressing these topics has grown, so have the needs for it's synthesis and evaluation particularly from a program planning and programming perspective. Efforts in this vein are not new, yet will never be outdated, complete nor final.

This study is part of ongoing efforts to synthesize those guidelines, criteria and role definitions which afford potentially valuable insight for program planning from the literature. Those which have been considered include: a historical review of contributing scientific, political and educational trends, guidelines for planning changes; the role of environmental and ecological paradigms in addressing problems and their solution(s); program planning steps and phases from both educational partners and community resources in planning. More common constraints and considerations are also identified. The utility of the derived list is supported by the theoretical and research literature whenever possible. Further, the use of the criteria as a tool for evaluating select programs is explored in the final chapter. Finally, the implications and recommendation statements suggest further areas for research in this area of ongoing need.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Mountain PLAY (Packet for Learning About Your Mountain)

AUTHOR: Theresa Marie Carroll **DATE OF COMPLETION:** Sept. 27, 1980

INSTITUTION: Humboldt State University, Arcata, California

DEPARTMENT / PROGRAM: Education (Environmental Education emphasis)

THESIS ADVISOR: Dr. Alan Leftridge

WHERE FULL THESIS IS AVAILABLE: Humboldt State University

Mountain PLAY (Packet for Learning About Your Mountain) is an Environmental Education learning activity package for Mount Rainier National Park, intended to be used in the classroom or on the school grounds by classes who are unable to visit the park. Designed for grades 4-6, Mountain PLAY can be easily adapted for older and younger students. The packet consists of fifteen units, each of which contain activities, background information, and suggested books and films on one of fifteen concepts of the Mount Rainier National Park environment. The Mountain PLAY activities range from board games and self-directing task cards designed for classroom learning centers and independent enrichment work, to class simulations, role-playing and school ground field trips designed for small groups or the whole class.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : An Evaluation Research Proposal for a Public [illegible]ation Campaign on Urban Forest Management

AUTHOR : Hernando V. Gonzalez II **DATE OF COMPLETION** 1979

INSTITUTION : University of Wisconsin Madison

DEPARTMENT / PROGRAM : Agricultural Journalism

THESIS ADVISOR : Larry Meiller

ADDRESS OF AUTHOR : 8E Abrams, Escondido Village, Stanford, Cal. 94305

WHERE FULL THESIS IS AVAILABLE : Dept. of Agricultural Journalism 440 Henry Mall, University of Wisconsin, Madison, Wis 53706

The objective of this evaluation research project is to determine which information program would be most appropriate and useful under different circumstances. In other words, the study is not expected to produce "the best public information campaign in urban forestry" but to identify under which conditions a certain information program would most likely achieve the objectives of this public information campaign.

The information campaign is scheduled to cover a nine-month period in 1980. Surveys of the general public will be taken immediately before, during and towards the end of the campaign at four-month intervals. A fourth measurement may also be taken four months after the end of the campaign.

Two experimental groups will be investigated under each treatment condition. One experimental group will consist of a panel to be maintained throughout the course of the campaign, while the other will consist of cross-sectional surveys at every measurement period. A control group from a city with no information program will also be included in the research design.

In studying cognitive, affective and behavioral outcomes, several research approaches will be used: (1) agenda-setting, (2) knowledge gap, (3) information-seeking, (4) interpersonal discussion or diffusion, (5) "uses-and-gratifications", (6) "hierarchy-of-effects" and (7) coorientation. A model of the public information campaign process is also proposed in an effort to integrate these communication approaches.

The information campaign has two major audiences: (1) the general public and (2) specific interest groups. Most of this proposal is concerned with the general public phase of this study although one important interest group, consisting of city government officials, is discussed in the coorientation approach.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: The Environment Conservation Authority 1970-1977: An Assessment and Analysis

AUTHOR: Angela Clark Vuchnich **DATE OF COMPLETION:** April, 1980

INSTITUTION: University of Calgary

DEPARTMENT / PROGRAM: Faculty of Environmental Design

THESIS ADVISOR: Dr. D.A.R. Thompson

WHERE FULL THESIS IS AVAILABLE: Faculty of Environmental Design The University of Calgary Calgary, Alberta T2N 1N4

ABSTRACT

This study has two distinct objectives. It examines public consultation in environmental issues in Canada during the 1960's and 1970's. The information learned after completion of the first objective is then used to make an assessment and analysis of the Environment Conservation Authority of Alberta 1970-1977. The Authority was an environmental advisory council at the provincial level.

This study compares the Authority to other environmental advisory bodies created by Canadian governments between 1970 and 1975. Although all were created to give advice on environmental matters, great diversity was found among them. In a matrix, seven benchmarks were used for advisory body comparison. These were: 1) membership 2) functions 3) public hearings 4) budget 5) staff 6) publications 7) chairmen.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE: Approaches and Methodologies for Environmental Impact Analysis

AUTHOR: Daryl A. Mikalson **DATE OF COMPLETION:** July, 1980

INSTITUTION: The University of Calgary

DEPARTMENT / PROGRAM: Faculty of Environmental Design

THESIS ADVISOR: Dr. R.D. Revel

WHERE FULL THESIS IS AVAILABLE: Faculty of Env'l Design, The University of Calgary Calgary, Alberta, Canada T2N 1N4

The report documents an examination of approaches and methodologies for environmental impact assessment (EIA) with particular emphasis on their application in the EIA of petroleum development projects. Relevant government legislation, policy, and guidelines are discussed. Possible roles for EIA in environmental planning are examined. EIA is discussed in terms of the following activities: Description of the Development, Management of the EIA, Initial Environmental Assessment, Questioning the Adequacy of Information-Design of Necessary Studies, Public Liaison, Government Liaison, Impact Assessment-Conceptual Planning-Negotiation, Identification of Tradeoffs and Unresolved Impacts, and Environmental Design. What is an impact, the use of objective and subjective judgement in EIA, and approaches to impact identification, description and evaluation are discussed. The following techniques are described and evaluated: 1. Ad Hoc Approach, 2. Guidelines, 3. Checklists and Handbooks, 4. Philosophical and Technical Principles for Environmental Management, 5. Land Use Planning Techniques, 6. Matrices, 7. Systems Analysis, 8. Management Techniques- CPM, PERT, Management Information Systems, 9. Simulation Modeling Techniques, 10. Benefit-Cost Analysis, 11. Factor Analysis, 12. Gaming and Discussion Structuring Techniques, 13. Scenarios, 14. Survey Research and Community Profiles, 15. Public Participation- Approaches and Techniques, 16. Team Organization- Approaches, and 17. Experimental-Scientific Approach. The internal environment, as exemplified by a case study, in which EIA is carried out in a petroleum corporation is discussed. Recommendations are made as to the appropriate usage of the above techniques and on the adoption of a project planning process in which EIA is a more integral part.

GRADUATE PROGRAMS
in
Environmental Education and Communications

This is the third year that descriptions of graduate programs in environmental education and communications have been listed in Recent Master's Thesis Work. As in the past, all institutions contacted for thesis abstracts were asked to briefly describe their graduate program on the form we provided. The information is reproduced here exactly as the institutions reported it.

Twelve schools are represented for the first time, along with 43 which have been listed before. The programs are listed alphabetically by state and then by institution. The information is organized in the following manner:

Name of the Institution — Name of the person to contact for more information
Division offering the program
Title of the program
(degrees offered)

A brief description of the program.

We feel that everyone working in environmental education and communications can benefit from this listing, and we wish to thank all those who provided information on their programs.

California State University, Hayward
Department of Teacher Education
Curriculum Option with specialization in Environmental Education
(M.S.)

Esther P. Railton, Ed.D.
Professor of Teacher Educ.
Calif. State Univ., Hayward
Hayward, CA 94542
(415) 881-3016

A one-year option for K-14 teachers and other environmental leaders; courses offered late afternoon and evenings. Curriculum, advanced educational psychology, research, infusion of energy/environmental education into all subjects; resident school sites and community learning experiences; local and world wide view of E.E. Wide scope of lectures in environmental studies, urban/rural community. Program utilizes a California State grant-funded resource/research laboratory.

Humboldt State University
Department of Education
Master of Arts in Education:
Special Studies Env'l Education

Dr. Alan Leftridge
Environmental Education Coord.
Department of Education
Humboldt State University
Arcata, CA 95521

The major focus is to help students become proficient with the methods of effectively promoting environmental awareness. The degree is therefore directed at students interested in developing ways of sharing their concern for their environments with select audiences utilizing various educational and interpretive techniques. Degree may be obtained without possession of a teaching credential.

San Francisco State University
School of Education
Environmental, Camping & Outdoor Education
(M.A.)

Dr. William Hammerman
ECO Education Program
San Francisco State University
1600 Holloway Avenue
San Francisco, CA 94132
415/469-2282

The study of the utilization of the outdoors and community resources as learning laboratories. Emphasis is placed on curriculum development, teaching strategies, and evaluation.
Knowledge and skills in Environmental, Camping and Outdoor Education may be used by teachers, recreation leaders and interpreters in designing innovative instructional programs, developing effective teaching techniques, and improving human understanding.

Stanford University
Department of Communications
(M.A., Ph.D.)

William Paisley, Assoc. Prof.
Department of Communication
Stanford University
Stanford, CA 94305

Students in the M.A. programs focussing on Journalism, Film, Broadcasting, or Communication Media and Social Change as well as students in the Ph.D. program in Communication Research can elect to conduct thesis research on problems of environmental communication such as the flow of environmental information to the public and to policy-makers. Alternatively, students may participate in the design of information systems or campaigns to improve the flow of environmental information.

COLORADO

Colorado State University
College of Forestry and Natural Resources-Dept. of Education
Conservation Education
(M.Ed., M.S., Ph.D.)

Dr. Charles L. Mahoney
Prof. of Resource Conservation
Dept. of Recreation Resources
Colorado State University
Fort Collins, CO 80523

Graduate Programs lead to the Master of Education, Master of Science, and Doctor of Philosophy degrees. The Conservation Education program prepares students to become teachers at the junior high and secondary levels. Emphasis at the graduate level is on furthering knowledge of natural resources conservation and management, developiing more effective teaching techniques and innovative instructional programs.

DELAWARE

University of Delaware
College of Education
Educational Development
Environmental Education; Science Ed.
(M.Ed., Ed.D.)

Dr. Les Picker
College of Education
University of Delaware
Newark, DE 19711

This is a flexible program, designed to meet the employment needs of those entering the field of environmental education and/or science education. Teacher certification is required for entrance.

FLORIDA

Florida State University
Department of Curriculum & Instruction
Science Education (M.S.Ed.)
Social Studies Education (M.S.Ed.)

Rodney F. Allen, Professor
Social Studies Education

Ronald M. Good, Professor
Science Education

209 Education
Florida State University
Tallahassee, Florida 32306
904/644-6553

No specific program in environmental education is offered; however, master's candidates in science and social studies education may develop a program of studies with that focus. In fact, students are encouraged to do so.

GEORGIA

University of Georgia
College of Education
Adult Education (M.A.)
Science Education (M.A.)
Social Science Education (Ed.S)
Recreation & Leisure Studies (Ed.D.)

Professor R.N. Saveland
203 Dudley Hall
University of Georgia
Athens, Georgia 30602

Franklin College of Arts & Sciences
Geography Department (Ph.D.)

School of Environmental Design
Landscape Architecture (BLA,MLA)

School of Forestry

Institute of Ecology

No description of programs given.

HAWAII

University of Hawaii at Manoa
Dept. of Educational Foundations
Emphasis in Environmental Education
(Masters, Ed.D.)

Chairman, Graduate Field
Dept. of Educ. Foundations
University of Hawaii
West Annex 2, Room 222
1776 University Ave.
Honolulu, HI 96822

The Department has several areas of emphasis, one of which is environmental education. The program works in conjunction with the Environmental Studies Program in the University.

IDAHO

University of Idaho
College of Forestry, Wildlife,
& Range Sciences
Interpretation/Communication
(B.S., M.S., Ph.D.)

Dr. James R. Fazio
Dr. Sam H. Ham
Dept. of Wildland Recreation Management
College of Forestry, Wildlife,
& Range Sciences
University of Idaho
Moscow, Idaho 83843

Interpretation/communication is one of three curriculum options in the Department of Wildland Recreation Management. In addition to an introductory course in interpretive methods, majors take an applied laboratory course, at least 12 supportive electives, and practice interpretation with local school groups and through seasonal employment with land management agencies.
Work in environmental interpretation, environmental education or resource communications may be pursued through interdisciplinary studies leading to the M.S. in Wildland Recreation Management or to the Ph.D. Other areas of concentration include recreation planning, wilderness and dispersed recreation management, tourism, economics, administration and others.

ILLINOIS

Governors State University
College of Arts & Sciences
Science Division
Science Teaching
Secondary (M.A.)
Community College (M.A.)
Elementary (M.A.)

Dr. Mohammed A. Kishta
Governors State University
Science Division
Park Forest South, IL 60466

Science teaching program is interdisciplinary in nature and competency-based program. The competencies focus on: a) science content, investigative abilities, information retrieval, and the history and philosophy of science; b) learning theories, curricular development, teaching skills and evaluation; and c) cultural diversity, humanistic values and perspective.

40

Northeastern Illinois University
College of Arts & Sciences
Dept. of Geography & Environmental Studies
Geography & Environmental Studies
(M.A.)

Karl A. Kriesel, Grad. Coordinator
Dept. of Geog. & Env. Studies
Northeastern Ill. Univ.
5500 N. St. Louis
Chicago, IL 60625

Program is designed to provide advanced analysis of environmental and spatial systems. Included are ecological studies of human-environmental interrelations, studies of rapidly changing landscapes, locational studies concerning the geometrics of movement, size, shape and distance, and studies of environmental resources in terms of their interpretation, development and use. Urban land use planning sequence in also available.

Northern Illinois University
College of Liberal Arts & Sciences
see description
(M.S.)

Dr. Burley V. Bechdolt, Jr.
Office of Environmental Studies
Northern Illinois University
Dekalb, Illinois 60115

The university offers M.S. degree programs in the following departments whose programs make possible significant graduate work on environmental topics: Biological Sciences; Geography (emphasis in Natural Environmental Systems, Urban Economics, and Meteorology); Geology; Economics; Chemistry (Ph.D also); Physics; and Political Science (Ph.D. also).

Sangamon State University
Public Policy and Administration
Environmental Studies Program
(M.A.)

Dr. Malcolm P. Levin, Coord.
Environmental Studies Program
Sangamon State University
Springfield, Illinois 62708

The emphasis of the M.A. degree in Environmental Studies is on providing professional education in environmental analysis and planning. Students are trained to order and to compare information, concepts, and ideas in comprehensive and meaningful systems. Students select a concentration from one of the following: Environmental Administration, Environmental Planning, and Individualized Environmental Studies. Students may also pursue and Envergy Studies sequence.

Southern Illinois University
Curriculum, Instruction, & Media
Science/Environmental Education
(M.S.Ed., Ph.D.)

Dr. Harold R. Hungerford, Prof.
Dr. Peter A. Rubba, Asst. Prof.
Science/Environmental Education
Dept. of C.I.M.
Southern Illinois University
Carbondale, Illinois 62901

Degrees in either elementary or secondary education with an emphasis in environmental education are offered. Masters' programs involve a minimum of 64 semester hours. Many opportunities exist for practicing internships, practicums, research, and cognate courses outside the College of Education.

Department of Forestry
Environmental Studies

Paul A. Yambert, Professor
Southern Illinois University

No description of program given.

INDIANA

Ball State University
College of Sciences & Humanities
Dept. of Natural Resources
Graduate Studies
(M.S., M.A.)

Dr. Donald E. Van Meter
Dept. of Natural Resources
Ball State University
Muncie, IN 47306

The Dept. of Natural Resources offers a graduate major in natural resources leading to a Masters of Arts or a Masters of Science degree. A cognate (minor) in natural resources is also available for graduate students pursuing a doctoral degree in several other disciplines. Graduate programs are individualized for each person, with consideration given to the student's undergraduate academic background, professional experience, and future employment interests.

Indiana University
School of Public &
Environmental Affairs
Environmental Programs
(MSES)

J.C. Randolph, Director
SPEA Environmental Programs
400 E. 7th
Poplars 438
Bloomington, IN 47401

Most of the environmental programs of Indiana University emphasize the application of environmental science to the policy-making process. The approach is solution-oriented. Most programs provide a basic background, with varying emphasis, on technical skills, applied science, and knowledge of the political process. Students become specialists in particular aspects of environmental issues, yet have a broad perspective in terms of technical abilities and socioeconomic concerns.

IOWA

Iowa State University
Professional Studies in Education
(M.S.)

Thomas Tanner
141 Bessey Hall, ISU
Ames, IA 50011
(515) 294-7252

(1) M.S. in education, specialty in curriculum. Environmental education faculty member will be major professor for those emphasizing EE and environmental studies.
(2) M.S. or M.A. in general graduate studies, for those wishing mainly to improve subject matter competence for teaching; EE and environmental studies may be program components.

KENTUCKY

Eastern Kentucky University
Dept. of Recreation & Park
Administration
Recreation & Park Administration
(B.S., M.S.)

Dr. James McChesney
College of Health, Physical
Education & Recreation
Dept. of Recreation & Park
Administration
Begley 411
Eastern Kentucky University
Richmond, KY 40475

Degree in Recreation & Park Administration with opportunity to focus on outdoor/nature interpretation and recreation programs.
No thesis requirement.

Murray State University
Dept. of Instruction & Learning
Education (emphasis Environmental Education)
(M.A.)

Terry L. Wilson, Director
Center for Environmental Education
Murray State University
Murray, KY 42071

The Center for Environmental Education in the College of Human Development and Learning offers the Master's degree in Education with an emphasis in Environmental Education. The program requires a minimum of 12 semester hours in environmental education. Internships and graduate assistantships are available.

LOUISIANA

McNeese State University
College of Science
Environmental Science
(M.S.)

Dr. Victor Monsour, Chairman
Dept. of Environmental Science and Microbiology
McNeese State University
Lake Charles, LA 70609

This is a general program in environmental science. Thesis is optional. Total minimum semester hours for the degree with a thesis is 24; whereas without a thesis the minimum number of hours required is 36. Specialization comes via the thesis.

MARYLAND

The Johns Hopkins University
Dept. of Geography and Environmental Engineering
(M.A., M.S.E., Ph.D.)

Dr. M. Gordon Wolman, Chairman
Dept. of Geography and Environmental Engineering
The Johns Hopkins University
Baltimore, MD 21218

The program in geography and environmental engineering has three major facets: surficial earth processes, environmental engineering including systems analysis, and resources and human geography. The emphasis is upon research and teaching at the graduate level in problems crossing disciplinary lines. These include such areas as location of public facilities, regulatory mechanisms in resource management and pollution control, natural processes and their relation to human activities, and the impact of human activities on spatial location and cities. Environmental education and communication are not formal aspects of the curriculum, but closely related to the work and participation of students and faculty in education and environmental decision making.

University of Maryland, College Park
College of Agriculture
Environmental Education
(M.S.)

Dr. Jack Wheatley
Agricultural and Extension Educ.
Room 0220-Symons Hall
University of Maryland
College Park, MD 20742

This program provides expertise in content and methodology appropriate for outdoor education for school systems. Professional park naturalists also are attracted to the program due to this orientation. The program is cross-disciplinary, with students choosing courses from a number of areas, including biology, wildlife management, resource economics, education, and geography.

MICHIGAN

Michigan State University
Department of Fisheries & Wildlife
Natural Resources/Environmental Ed. (B.S.)
Environmental Conservation Education (M.S., Ph.D.)

Dr. R. Ben Peyton,
Assistant Professor
Dr. David I. Johnson,
Assistant Professor
Coordinator, NR/EE program
Michigan State University
East Lansing, MI 48823

An undergraduate program is offered as an interdepartmental effort by the Departments of Fisheries and Wildlife, Forestry, Parks and Recreation, and Resource Development. The NR/EE curriculum leads to certification in environmental education and an approved minor at the secondary level.
Graduate programs are available at both M.S. and Ph.D. levels. Emphasis depends on student needs and career goals may range from natural history interpretation to adult environmental education. Student programs may draw from a wide range of facilities and course offerings at Michigan State University.

University of Michigan
School of Natural Resources
Behavior & Environment Program
(B.S., M.S., Ph.D.)

Dr. William B. Stapp, Chairperso
2006 Dana
School of Natural Resources
University of Michigan
Ann Arbor, MI 48109

The School of Natural Resources offers both an undergraduate and graduate program in Behavior and Environment. Students can specialize in Environmental Advocacy, Environmental Communications, Environmental Instruction or Outdoor Recreation. All four concentrations share common concerns. In each case, the student is asked to take course work in three areas: Theory and Concepts; Skill Acquisition; and Effecting Change. Students desiring work experience are also field placed.

MISSOURI

University of Missouri, Columbia
Graduate School
Environmental Sciences
(M.S., Ph.D.)

Howard C. Hopps, M.D., Ph.D.
Committee Chairperson
Department of Pathology
School of Medicine
University of Missouri
Columbia, MO 65212

Emphasis is on a multidisciplinary approach to environmental problems -one that cuts across conventional disciplinary barriers. Programs are tailor-made to fit the individual student's needs, and are under the continual supervision of the Environmental Sciences Graduate Area Program Committee. Particular areas of strength include ecology, agricultural sciences, the physical sciences, including the Trace Substances Analytical Center, and sociological approaches to man-environment interaction.

MONTANA

University of Montana
College of Arts and Sciences
Environmental Studies Program
(M.S.)

Ronald E. Erickson
Environmental Studies
University of Montana
Missoula, MT 59812

The program accepts students from any discipline (including a few from education in the past eleven years). Our concern is for analyzing and "solving" environmental problems, and advocacy skills are required. Most students do thesis work on either scientific questions or issues of public policy.

NEW YORK

State University of New York
at Brockport
Dept. of Biological Sciences
Biological Sciences
(M.S.)

Dr. Joseph C. Makarewicz
Dept. of Biological Sciences
113 Lennon Hall
SUNY Brockport
Brockport, New York 14420

The Dept. of Biological Sciences offers two plans for the Masters of Science Degree in Biological Sciences: Plan I (a thesis program) or Plan II (independent research experience in lieu of thesis). The expertise and experience of 26 faculty members service about 30 graduate students in several areas of research. Approximately 13 faculty are active in environmentally oriented research and teaching. The Department is well-equipped with both conventional instruments and a number of unique facilities (e.g. artificial streams). Field equipment for aquatic and terrestrial ecology are available including four boats. The close proximity of the Finger Lakes Region, Lake Ontario, the Adirondack Park of New York, and the 500 acres at Fancher Campus of SUNY Brockport provide ample sites for ecological research.

State University of New York
at Cortland
Division of HPER
Nature Recreation
Outdoor Education
Camping
(M.S., M.S.Ed.)

Dr. Linda R. Meyer
Coordinator, Graduate Program
Dept. of Recreation Education
A-310 PER Center
State University College, Cortland
Cortland, NY 13045

A program designed to give graduate level exposure to camping and outdoor education fields. Designed for teachers, camp administrators, nature recreation personnel, and outdoor educators in agency settings. Core of research methods, seminar in literature of recreation and research, administrative problems of camping, outdoor recreation, outdoor education, electives in arts and sciences and supporting areas.

State University of New York
at Plattsburgh
Institute for Man and Environment
Environmental Science
(B.A.)

Dr. James C. Dawson,
Director and Professor
Institute for Man and Env't
State University of New York
Plattsburgh, NY 12901

An undergraduate multidisciplinary program and opportunities to develop an environmental science degree with optional tracks in wildlife, ecology, alternate energy, planning, resource economics, and rural sociology. Students complete a senior-year research thesis at the Miner Lester satellite campus. Double major with Faculty of Professional Studies (includes education) is possible. No graduate program.

State University of New York,
Syracuse
College of Environmental Science &
Forestry
Environmental Science
Environmental Education/Communication
(M.S., Ph.D.)

David Hanselman
Env. Education/Communications
311 Marshall Hall
SUNY-ESF
Syracuse, NY 13210
(315) 470-6551

This college is upper division and graduate. M.S. and Ph. degrees in Environmental Education and Communications are pursued through interdisciplinary studies in the Graduate Program in Environmental Science. Each student, working with his/her professor, charts an individual program based on three criteria: depth in an appropriate subject area; breadth of educational experience; and synthesis of the components. The College is adjacent to Syracuse University and through a unique contractual arrangement, GPES-EE/C students have full access to resources of both ESF and SU. Of particular strengths are the wide array of course offerings in Environmental Science (including Social Science) and Public Communication.

NORTH CAROLINA

Duke University
School of Forestry &
Environmental Studies
Master of Forestry (MF)
Master of Environmental Management
(MEM)
Graduate School (MS, MA, PhD)

Benjamin A. Jayne, Dean
School of Forestry & Env. Sci.
Duke University
Durham, NC 27706

Two professional degrees (MF, MEM) are offered through the School of Forestry and Environmental Studies and are intended to provide students with education and experience for careers in resource management. Students interested primarily in teaching and research are urged to obtain the MS, MA, or PhD through the Graduate School. Areas of concentration are: Natural Resources Science/Ecology, Systems Science, and Economics/Policy. Additional opportunities are afforded by the Integrated Case Studies in Natural Resource Analysis program and the Center for Resource and Environmental Policy Research. Individualized programs and interdisciplinary study are encouraged.

OHIO

Antioch University
Glen Helen Outdoor Education Center
Teacher/Naturalist Internships
no degree offered

Jean Horn, Director
Outdoor Education Center
1075 St. Rt. 343
Yellow Springs, OH 45387

Graduate Students earn ten graduate credits going through five months of on-the-job training as naturalists, working with small groups of 5th-8th grade students who come by classes to our resident center. The facility is located in a 1,000-acre nature preserve owned by Antioch University.

The Ohio State University
Division of Environmental Education
School of Natural Resources
Environmental Education (M.S.)
Faculty of Science and Mathematics
Education (Ph.D.)

Dr. Robert Roth
246 Lord Hall
124 West 17th Avenue
Columbus, Ohio 43201
(614) 422-5589

Master's candidates may propose their own 45 hour thesis or 55 hour non-thesis program. The candidates progression of courses must be discussed with the graduate advisor prior to acceptance. Criteria for program acceptance includes coherence, and interpretation, education, or communications applicability. Courses may also be taken in other departments.

University of Cincinnati
Curriculum & Instruction
Environmental Education
(M.Ed., Ed.D.)

Dr. Thaddeus W. Fowler
Teachers College, #2
University of Cincinnati
Cincinnati, Ohio 45221

Individualized program in environmental education with major emphasis on environmentalizing the classroom and using community resources. There is strong cooperation with the U.S. EPA and Cincinnati. A practicum is required.

PENNSYLVANIA

Pennsylvania State University
College of HPER
Recreation and Parks
(M.S., M.Ed., Ph.D., D.Ed.)

Herberta M. Lundegren
267 Recreation Building
Penn State University
University Park, PA 16802

The graduate program is designed to prepare students for administrative, supervisory, research and teaching positions in public recreation and park systems, in colleges and universities, in voluntary agencies, and in institutions. The program is oriented to meet the specific needs and research interests of each candidate.

Slippery Rock State College
School of Professional Studies
Environmental Education
(B.S. in EE, M.Ed.)

Dr. Craig C. Chase
Environmental Education
Slippery Rock State College
Slippery Rock, PA 16057

The undergraduate degree is designed to provide the student with interdisciplinary, holistic values as presented by the academia of many departments of the college.
The graduate degree is designed to prepare program administrators with an expertise in EE programs, siteplanning, and fund-raising as well as a field knowledge of environmental components encountered.

University of Pittsburgh
Teacher Development
Science Education
(M.Ed., Ed. D.)

Dr. Albert P. Nous
Assoc. Professor of Science Ed.
4C12 Forbes Quadrangle
University of Pittsburgh
Pittsburgh, PA 15260

Master and Doctoral level coursework is directed at the design of instructional resources, assessing the extent of cognitive growth of science concepts in young children and adolescents, uses of microcomputers in environmental simulations, and assessing needs of school and community interest groups. The improvement of science education in schools is the primary goal.

SOUTH CAROLINA

Clemson University
Recreation and Park Administration
Environmental Interpretation
(M.R.P.A.)

Chairman, Dept. of Recreation
and Park Administration
263 Forest & Recreation Resources Bldg.
Clemson University
Clemson, SC 29631

This program is designed for persons wishing to increase their competence in providing leisure related services. Flexibility permits individual development in interpretation, recreation administration, resource management, comprehensive resource planning, and therapeutic recreation.

TENNESSEE

East Tennessee State University
School of Public & Allied Health
Environmental Health
(M.S.E.H.)

Monroe T. Morgan, Dr.P.H.,
Professor & Chairman
Dept. of Environmental Health
P.O. Box 22960A
East Tennessee State University
Johnson City, TN 37601

Graduate education in environmental health is offered to prepare administrative and technical generalists for a variety of high level positions. Emphasis may include a variety of areas, such as epidemiology, water resources management, food sanitation, air pollution control, solid waste management, occupational safety and health, environmental analysis, and more.

University of Tennessee
Liberal Arts
Graduate Program in Ecology
(M.S.. Ph.D.)

Dr. Susan E. Riechert
Zoology Dept.
University of Tennessee
Knoxville, TN 37916

The Graduate Program in Ecology at the University of Tennessee is an interdepartmental program which utilizes resources of the College of Liberal Arts, Agriculture and Engineering to offer a balanced, in-depth, advanced education in contemporary ecology. At present, this program includes approximately 100 students and 50 faculty members and offers approximately 80 graduate courses in ecology and supporting fields.

TEXAS

Stephen F. Austin State University
School of Forestry
School of Education
Outdoor/Environmental Education
(B.S., M.S., D.F.)

Dr. Michael Legg
Box 6109 SFA Station
Nacogdoches, TX 75962

A strongly resource oriented program that is cooperative between the Schools of Education and Forestry. Oriented toward preparing teachers for teaching in outdoor laboratories or nature centers.

Texas A&M University
Department of Recreation & Parks
Recreation & Resources
Development (Interpretation)
(MAg., M.S., Ph.D.)

Dr. John W. Hanna
Dept. of Recreation & Parks
Texas A&M University
College Station, TX 77843

The Interpretive Option is designed to identify and provide scientific solutions to communication problems encountered by administrators, managers, practicioners, and educators. The focus is upon interpretive program management with emphasis on the utilization of interpretation as a resource management tool.

UTAH

University of Utah
Dept. of Communication
Communication
(M.A., M.S., Ph.D.)

Robert K. Avery, Director of Graduate Studies
Dept. of Communication
University of Utah
Salt Lake City, Utah 84112

The department of communication at the University of Utah provides a broad-based theoretically oriented graduate program in communication studies. A primary area within the program is policy research and matters directly related to policy research. Environmental education studies within a communication theory framework are strongly encouraged.

VERMONT

University of Vermont
School of Natural Resources
Natural Resources Planning (M.S.)

College of Education & Social Serv.
Teacher Education (M.Ed.)

Thomas R. Hudspeth
Environmental Program
University of Vermont
153 S. Prospect
Burlington, VT 05405

Emphasis in Environmental Interpretation as part of a 30-hour program in Natural Resource planning (M.S. degree) in the School of Natural Resources.
Emphasis in Environmental Education as part of a 30-hour program in Teacher Education (M.Ed. degree) in the College of Education and Social Services.

VIRGINIA

University of Virginia
Art and Sciences
Dept. of Environmental Sciences
(B.A., M.S., M.A., Ph.D.)

George M. Hornberger, Chairman
Dept. of Environmental Sciences
University of Virginia
Charlottesville, VA 22903

In 1969 the University of Virginia established an interdisciplinary program in environmental sciences to further the understanding of natural and human environments, to foster scientific analysis of environmental issues and problems, and to develop a rigorous academic program for students interested in a comprehensive approach to questions of environmental quality. The department attempts to educate two types of person: a) those who wish to acquire a broad, thorough understanding of basic environmental phenomena and processes, and b) scientists who can make effective contributions to the fundamental knowledge of environmental systems.

WASHINGTON

University of Washington
College of Education
C & I: Environmental Education
(M.Ed.)

Dr. Roger G. Olstad
115 Miller DQ-12
University of Washington
Seattle, WA 98195

A program intended for certificated teachers who wish to specialize in environmental education during Master's degree study. It combines work in environmental studies with education, and includes independent study options for students to explore areas of particular interest.

Washington State University
Environmental Science Program
Environmental Science (BS, MS)
Regional Planning (MS)

William H. Funk, Chair
Troy Hall 305
WSU
Pullman, WA 99164

Environmental Science is a broad, interdisciplinary program concerned with the study of natural and modified environments and their interactions with the biological communities. Study emphasizes the comprehensive understanding of the environmental/ecological context, assessment of beneficial and distruptive impacts, and the methodologies to analyze, interrelate, and resolve these complex systems.

WEST VIRGINIA

West Virginia University
Division of Forestry
Environmental Concerns and Interpretation
(M.S.)

Dr. Gene Bammel
325 Percival Hall
West Virginia University
Morgantown, WV 26506

A Master's Program in the Recreation and Parks section of the Division of Forestry. Thesis or Research Project Programs, with emphasis on Forestry-related recreation and environment problems. Minor work in Public Administration, Psychology, Sociology, or other related area. Graduate assistantships are available.

WISCONSIN

University of Wisconsin, Madison
Center for Environmental Communications & Education Studies
Environmental Communications
(M.A., M.S., Ph.D.)

Dr. Clay Schoenfeld, Chairman
Center for Environmental Communications & Education Studies
433 North Murray
University of Wisconsin
Madison, WI 53706

The Center for Environmental Communications and Education Studies is an informal consortium of faculty and students from a number of UW-Madison departments, devoted to appropriate cooperative teaching, research, and extension programs. The Center aids the professional training of specialists in environmental communications, sponsors studies of environmental communications media and methods, and provides various symposia and services.

Department of Agricultural Journalism
Natural Resources Communication
(MS)

John H. Fett, Chairman
440 Henry Mall
University of Wisconsin
Madison, WI 53706

To provide individually designed programs to equip natural resources professionals with better communications skills, journalists with more complete environmental knowledge and both with an understanding of evaluation research.

50 Institute for Environmental Studies
Land Resources Program
(M.S., Ph.D.)

Dr. Arthur B. Sacks,
Administrator of Academic Programs
IES Instructional Program
70 Science Hall
550 N. Park Street
University of Wisconsin
Madison, WI 53706

Land Resources is an interdisciplinary program leading to the Master of Science in Land Resources and the Doctor of Philosophy with a major in Land Resources. The degree is especially designed for students who wish to broaden their field of knowledge related to land and natural resources or who, because of employment or other experience, find they need special training in the technical, social, or management aspects of land.

University of Wisconsin,
Stevens Point
College of Natural Resources
Environmental Education
(M.S.)

Richard Wilke
College of Natural Resources
Univ. of Wisc.-Stevens Point
Stevens Point, WI 54481

The College of Natural Resources offers both an undergraduate and graduate program in Environmental Education. Students can specialize in Environmental Education Instruction, Adult and Community Based EE, Environmental Communication or Environmental Interpretation. In all cases students develop competencies in ecology, environmental awareness, issue investigation and evaluation, and environmental action. Relevant practical experience is available for all through the University's Central Wisconsin Environmental Station.

CANADA

University of Alberta
Department of Forest Science
Master of Science Program in
Forest Science
(M. Sc.F.)

Linda Ehrler or Doug Walker
Department of Forest Science
714 Chemical-Mineral Engineering
Building
University of Alberta
Edmonton, Alberta T6G 2G6

The Department of Forest Science offers a Master of Science program. Other departments within the Faculty of Agriculture and Forestry offer expertise in forest-related areas. Entrance requirement is normally a B.Sc.F. or its equivalent, although flexibility is possible in developing programs for applicants with Bachelor's degree in another discipline.

University of British Columbia,
Vancouver
Resource Management Science
(M.Sc., Ph.D.)

L. M. Lavkulich, Chairman
Resource Management Science
University of British Columbia
3075 West Brook Mall
Vancouver, B.C., Canada
V6T 1W5

Program is an interdisciplinary program in resource management. Students may specialize in a number of concentrations viz land management, wildlife management, fisheries management, range management, water resources management and ecological policy analysis. New concentrations being developed include renewable energy and aqua culture. Programs are "tailor-made" for individual students to meet student desires as well as academic excellence.

University of Calgary
Faculty of Environmental Design
Environmental Science
(M.E.Des.)

Dr. Dixon Thompson
Programme Director, Env'l Science
University of Calgary
Calgary, Alberta T2N 1N4 Canada

The environmental science programme has been conceived in response to the growing societal need for professional scientists capable of dealing with environmental issues as they may arise in a variety of institutional, industrial, and community contexts. Environmental science emphasizes not only scientific competence but also applied skills, such as planning, design, management, policy analysis, and information processing. Students will acquire skills in human transactions and knowledge about the working institutions which shape decisions on the environment.

University of Toronto
Institute for Environmental Studies
Collaborative Programme in Env. St.
(M.A., M.Sc.)

Professor A.P. Grima,
Coordinator of Graduate Studies
University of Toronto
Toronto, Ontario, Canada M5S 1A4

The Institute for Environmental Studies offers a Collaborative Master's Programme with the Graduate Departments of Botany, Geography, Zoology, Forestry, Geology, and Anthropology. Students are required to have a Bplus average in their final undergraduate year. The formal length of the programme is normally 16 months, including an internship programme.